NISTIR 4942

Present Worth Factors for Life-Cycle Cost Studies in the Department of Defense (1993)

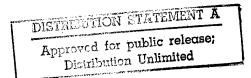
Data for DoD compliance with the Federal Methodology for Life-Cycle Cost Analysis, Title 10, CFR, Part 436, Subpart A, and OMB Circular A-94

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October 1992



U.S. DEPARTMENT OF COMMERCE Barbara Hackman Franklin, Secretary

TECHNOLOGY ADMINISTRATION
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NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY John W. Lyons, Director

PREFACE

On March 18, 1991, the Army, Navy, and Air Force signed a Memorandum of Agreement (MOA) on Criteria/Standards for Economic Analysis/Life-Cycle Costing for MILCON Design. The stated purpose of the MOA is to establish criteria and standards for performing economic analyses (EAs) and life-cycle cost (LCC) studies in support of design decisions for projects in the Military Construction (MILCON) Program; i.e., to support the selection from various alternatives of components/systems being considered as elements in facilities design. Since 1991 the criteria/standards package represented by the provisions of the MOA has been adopted and specified for use in conjunction with several other Department of Defense (DoD) applications. For example, the Office of the Secretary of Defense has specified that EAs conducted in support of project-justification decisions for ECIP (Energy Conservation Investment Program) projects be based on this same criteria/standards package.

The criteria and standards in the MOA are responsive to, and completely consistent with, the requirements of all governing statutes, executive orders, and regulations, including for example those of 10 CFR 436A (for energy studies) and OMB Circular A-94 (for non-energy studies). A copy of the provisions of the MOA is provided in Appendix A of this report.

The tables presented in this document are designed to be used in support of EAs/LCC studies conducted in accordance with the provisions of the MOA. These tables are considered to be valid and appropriate for all analyses/studies initiated during FY 93, and are authorized for use throughout that period. The present worth factors presented in the various recurring cost tables are based on an assumed Date of Study (DOS) of April 1993. These factors should be sufficiently accurate for use at any time during the fiscal year.

The present-worth factors in this report are consistent with the those in NISTIR 85-3273-7, Energy Prices and Discount Factors for Life-Cycle Cost Analysis 1993, the Annual Supplement to NIST Handbook 135, Life-Cycle Costing Manual for the Federal Energy Management Program. However, the present worth factors for DoD studies are more specific as to the date of study and the date of beneficial occupancy than those in NISTIR 85-3273-7. The DoD factors for annually recurring costs assume that the date of study is April 1993 and that the date of beneficial occupancy occurs in October of the current year or in October of a future year (up to 2002). The DoD tables for annually recurring costs are based on a mid-year discounting convention for all annually-recurring costs, while the corresponding tables in NISTIR 85-3273-7 are based on an end-of-year discounting convention.

The same forecast of regional energy prices provided by the U.S. Department of Energy's Energy Information Administration (EIA) for NISTIR 85-3273-7 were used in computing the energy-type-specific tables in this report. However, with one exception, these tables are based on forecasts of energy prices for the industrial sector only, while the tables in NISTIR 85-3273-7 are based on residential, commercial, and industrial forecasts. Price forecasts for liquified petroleum gas (LPG) in the residential sector were used for the DoD tables because industrial LPG price forecasts were not available from EIA.

For LCC analysis of Federal projects outside of the Department of Defense, especially those projects related to energy conservation and renewable energy resources, the present worth factors from NISTIR 85-3273-7 should be used. NISTIR 85-3273-7, as well as NIST Handbook 135, can be obtained from:

Advanced Sciences, Inc. 2000 North 15th Street Suite 407
Arlington, VA 22201 (703) 243-4900 •

ABSTRACT

This document provides 45 tables of present worth factors to be used in computing the present worth of future costs (or cost reductions) in economic analyses of design decisions for projects in the DoD Military Construction Program. These factors are especially useful for the life-cycle cost analysis of investments in buildings or building systems which are intended to reduce future operating, maintenance, repair, replacement, and energy costs over the life of the facility. The tables include present worth factors for both one-time costs and annually recurring costs, based on the FEMP discount rate of 4.0% (FY 1993) for energy-related studies and on the OMB discount rate of 10.0% for non-energy studies. Forecasts of future energy prices used in the calculation of present worth factors for energy costs were provided by the Energy Information Administration.

ACKNOWLEDGMENTS

The author wishes to thank Larry Schindler of the U.S. Army Corps of Engineers for his sponsorship of this project, for providing the format and requirements of the tables, and for his careful review of this manuscript. Appreciation is also extended to Mr. Mark Rodekohr, Director of Energy Demand and Integration Division of the DOE Energy Information Administration, for providing the energy price projections upon which much of this report is based. Also deserving thanks are Ms. Barbara Lippiatt, Linde Fuller, and Rosalie Ruegg of NIST for their timely review of this manuscript.

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Part I. Tables of Present Worth Factors for Energy Studies

Part I contains tables of present worth factors for use in computing the life-cycle costs of the competing alternatives in an energy-related study, in accordance with the provisions of governing DoD criteria (see Appendix A). These tables are all numbered in a sequence beginning with the letter "E" for energy.

Table E-1, "Present Worth Factors--One-Time Costs, Zero Differential Escalation," provides present worth factors for costs which occur one time or at irregular intervals throughout the study period. These costs include construction/acquisition costs, non-annually recurring maintenance costs, major repair and replacement costs, and retention/salvage value or disposal cost. These factors are called "single present worth" (SPW) factors. The present worth of each cost occurrence is found by multiplying that cost, in Date-of-Study (DOS) prices, by the SPW factor corresponding to the time of occurrence (years after DOS). Interpolation is encouraged for non-integer time periods.

Table E-2, "Present Worth Factors--Annually Recurring Non-Energy Costs, Zero Differential Escalation," provides present worth factors for all costs other than energy costs which are incurred annually throughout the study period in substantially the same amount each year (in constant dollar terms), such as routine maintenance and repair costs. These factors are called "uniform present worth" (UPW) factors. The factors in this table are based on the assumption that the DOS is in April 1993, the beneficial occupancy date is in October of the same year or a future year, and that the annual cost occurs approximately at mid-year during each year of occupancy, or represents the sum of several costs distributed relatively uniformly throughout the year. The present worth of a cost recurring annually over the study period is found by multiplying the annual amount, in DOS prices, by the appropriate UPW factor. The number of payments generally corresponds to the number of years in the study period after the beneficial occupancy date. Interpolation is encouraged for study periods and for beneficial occupancy dates other than those shown on the table.

Tables E-3-ET-R, where ET is the energy type code and R is the region number (R = 5 is for U.S. average), provide present worth factors for annually recurring energy costs. These factors are based on the assumption that annual energy usage/savings is constant from year to year, but that energy prices are changing over time, in accordance with the provisions of governing DoD criteria (see Appendix A). These factors are sometimes called "modified uniform present worth" (UPW*) factors. The UPW* factors in this table are based on the assumption that the DOS is in April 1993, the beneficial occupancy date is in October of the same year or a future year, and that the annual energy cost occurs approximately at mid-year during each year of occupancy, or represents the sum of several costs distributed relatively uniformly throughout the year. The present worth of an annual energy cost over the study period is found by multiplying the annual amount, in DOS prices, by the appropriate UPW* factor. The number of payments generally corresponds to the number of years in the study period after the beneficial occupancy date. Interpolation is encouraged for study periods and for beneficial occupancy dates other than those shown on the tables.

Present Worth Factors--One-Time Costs Zero Differential Escalation (e = 0%) Table E-1.

	1		T	
SPW Factor	0.5339 0.5134 0.4936 0.4746 0.4564	0.4388 0.4220 0.4057 0.3901 0.3751	0.3607 0.3468 0.3335 0.3207 0.3083	0.2534 0.2083 0.1712 0.1407
Time Cost Incurred (Years after DOS)	16 17 18 19 20	21 22 23 24 25	26 27 28 29 30	35 40 45 50
SPW Factor	1.0000 0.9902 0.9806 0.9710	0.9615 0.9246 0.8890 0.8548 0.8219	0.7903 0.7599 0.7307 0.7026	0.6496 0.6246 0.6006 0.5775
Time Cost Incurred (Years after DOS)	0.00 0.25 0.50 0.75	ተ ሪ/ የ ላ ላ ነን	6 7 8 8 9	11 12 13 14

<1> Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum of Agreement on Criteria/Standards for EA/LCC for MILCON Design.

Data Based on Discount Rate of 4.0% (NIST Annual Supplement to Handbook 135, Oct 1992).
<3> Covers Costs such as Construction, Procurement, Replacement, Disposal.

ENERGY STUDIES: ALL REGIONS

ENERGY STUDIES: ALL REGIONS

Present Worth Factors--Annually Recurring Non-Energy Costs Zero Differential Escalation (e = 0%) Table E-2.

Number				Be	Beneficial O	Occupancy D	Date			
or Payments	Oct 1993	Oct 1994	Oct 1995	Oct 1996	Oct 1997	Oct 1998	Oct 1999	Oct 2000	Oct 2001	Oct 2002
1	.961	.924	88	8	.821	.7		٠.	. 702	9•
2	1.8861		1.7438	1.6767	₽	1.5502	1.4906	1.4333	1.3782	1.3251
ო	.775	.668	.56	4.	.372		7	•	.027	σ,
4	.629	.490	.35	Ç	.102	6	æ	•	.652	ະ
ហ	.451	.280	.11	o.	.805	•	ı.	•	.252	۲.
9	. 242	.040	.84	.66	.481	.308			.830	9
7	.002	.771	.54	.33	.130	.933	•	•	.385	7
80	.732	.473	. 22	.98	.755	.533	•	•	.919	
6	7.4353	7.1494	6.8744	6.6100	6,3558	-	5.8762	5.6502	5.4329	5.2240
10	.110	. 798	.49	.21	.933	.666	•	•	.926	9
	. 760	.423	.099		.488	.200	.923	.657	.401	.155
12	9.3851	9.0241	8.6770	8.3433	22	7.7138	7.4172	7.1319	57	6.5938
	.985	.601	.232	æ	.535	.207	.891	.588	4	.015
	.563	.156	.766	ı.	.029	.682	.348	.027	.718	.421
	1.118	0.690	.279	æ	. 504	.138	.787	.449	.124	.811
16	.652	.204	10.7732	10.3588	96.	.577			.514	.186
17	2.165	1.697	.24	0.81	0.39	.999	•	•	.889	.547
18	12.6593	12.1724	11.7042	11.2541	10.8212	ö	10.0048	9.6200	9.2500	8.8943
19	3.133	2.628	.14	1.67	1.22	. 795	•	•	. 596	.227
20	3.590	3.067	• 56	2.08	1.61	1.170	o.	۳.	.930	. 548
21	4.029	3.489		4	1.992	11.5309	11.0874	6	10.2510	.856
22	4.	13.8953	13.3609	12.8470	S	.87	11.4209	10.9817	0.55	10.1532
23	4.856	4.285	•	3.2	2.699	2.211	ä	ᆏ	10.8557	.438
24	5.247	4.660	•	3.5	3.033	2.531	તં	ä	1.140	0.712
25	5.622	5.021	14.4435	3.8	3.353	.840	12.3464	1.	1.414	0.975
30	7.292	6.627	5.987	5.37	4.781	14.2128	13.6661	۳,		.149
35	8.664	7.946	7.256	6.59	5.954	5.3	4.7	4.18	3.638	3.113
40	19.7928	19.0315	18.2995	17.5957	16.9189	16.2682	15.6425	15.0409	14.4624	13.9061
45	0.720	9.923	9.156	8.42	7.711	7.0	6.3	5.74	ເຄ	4.557
20	1.482	0.655	.861	9.09	8.363	7.6	6.9	6.32	5.696	5.093

<1> Data Based on Assumed DOS of Apr 1993. Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum of Agreement on Criteria/Standards for EA/LCC for MILCON Design.
Data Based on Discount Rate of 4.0% (NIST Annual Supplement to Handbook 135, Oct 1992).
<3> Covers Costs such as Routine Maintenance & Repair and Custodial.

Table E-3-EL-1. Present Worth Factors--Electricity

1.0528 10.72 2.0853 11.72 2.5765 12.20 3.0518 12.66 3.5116 13.10 3.9563 13.53 4.8025 14.35 5.2050 14.74 7.0278 16.50 8.5675 17.99	1.384 1.927 2.959 3.450 3.926 3.926 4.830 5.676 5.676 9.154 9.154	1 1	22.22.8 22.22.8 33.83.33.4 1.1 1.1 1.1	2.0907 11.7 2.6702 12.8 3.7732 13.3 4.2980 13.8 4.8057 14.3 5.2969 14.8 5.7722 15.2 6.6767 16.1 6.6767 16.1 8.6914 18.1 0.3955 19.7
	3.5116 13. 3.9563 13. 4.3865 13. 4.8025 14. 5.2050 14. 7.0278 16. 8.5675 17. 9.8675 19. 0.9650 20. 1.8916 21.	13.9260 13.5116 13. 14.3858 13.9563 13. 14.8305 14.3865 13. 15.2607 14.8025 14. 15.6768 15.2050 14. 17.5616 17.0278 16. 19.1543 18.5675 17. 20.4990 19.8675 19. 21.6343 20.9650 20. 22.5928 21.8916 21.	4.3567 13.9260 13.5116 13. 5.2918 14.8305 14.3865 13. 5.7365 15.2607 14.8025 14. 6.1667 15.6768 15.2050 14. 8.1154 17.5616 17.0278 16. 9.7629 19.1543 18.5675 17. 1.1540 20.4990 19.8675 19. 2.3284 21.6343 20.9650 20. 3.3199 22.5928 21.8916 21.	4.8057 14.3567 13.9260 13.5116 13. 5.2969 14.8320 14.3858 13.9563 13. 5.7722 15.2918 14.8305 14.3865 13. 6.2320 15.7365 15.2607 14.8025 14. 6.6767 16.1667 15.6768 15.2050 14. 8.6914 18.1154 17.5616 17.0278 16. 0.3955 19.7629 19.1543 18.5675 17. 1.8493 22.3284 21.6343 20.9650 20. 4.0750 23.3199 22.5928 21.8916 21.

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum
of Agreement on Criteria/Standards for EA/LCC for MILCON Design.
Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes
for Industrial Sector (NIST Annual Supplement to Handbook 135, Oct 1992).
<3> Region 1: ME, NH, VT, MA, CT, RI, NY, NJ, PA

ENERGY STUDIES: REGION 1

Table E-3-DO-1. Present Worth Factors--Distillate Oil

	Oct 2002	0.9085	•	•	•	•	.176	.972	.746	7.5024	.241	8.9651	ø	0.3	o.	1.7	2.346	2.974	13.5865	4.182	4.762	15.327	15.	16.410	16.927	17.428	19.702	21.627	23.256	24.636	25.	
	Oct 2001	0.9225	.831	. 722	. 596	.450	.284	.099	.894	7.6695	.424	9.1643	.887	0.5	.286	1.963	2.624	3.268	13.8971	4.509	5.104	5.68	16.2503	6.19	7.33	.85	0	2	'n	Ŋ.	26.5079	
	Oct 2000	0.9332	٠	2.7643	•	•	ε.	?	0		9.		ö	10.8209	H	8	2.8	3.5	14.2021	4.8	5.4	16.0382	16.6185	7.183	7.732	8.266	69.	.75	49	96.	27.2156	١
Date	Oct 1999	.938	.872	2.7945	.703	. 594	.468	.322	.156	7.9713	.766	.541	0.297	11.0363	1.759	2.467	3.159	3.835		5.140	5.769	5,381	6.97	7.557	8.122	71	1.178	3,305	5,106	6.630		
Occupancy Da	Oct 1998	•	•	2.8122	•	•	5	7	7	0	8.9115	.707	0.481	11.2372	1.976	2.699	3.407	4.099		5.436	6.081	6.7	7.3	7.9	8.4	19.0625	-	,	ហ		28.6202	
Beneficial Oc	Oct 1997	6.	æ	Φ,			.585	476	350	7	038	.853	0.648	42	2.179	2.918	3.641	4.349		5.717	6.378	7.023	7.651	8.263	8.859		2,105	4 379	6.304	7.933	29.3128	
Ben	Oct 1996	.94	88.	.82	.76	4.6980	۳	u	7		9.1485	.982	0.797	11.5928	2.367	3.122	3.8	7	15.2931	5.9	9.9	17.3220	7.9	8.5	9.2	19.8029	5.5	ש	י י	. 60	29,9989	
	Oct 1995	.946	.890	.832	.772	4.7110	644	566	475	367		0.094	0.928	11.7435	2.539	3.313	690.	4.808	15.5319	6.239	6.931	.607	.268	8.913	9.541		776	404	462	204	30.6787	
	Oct 1994	6	6	ω.		4.7271	665	, a		430	9.3218	195	049	.883	.698	13.4939	4.268	F 024	5.76	6.486	.194	7.886	8.562	9.223	9.867	20.4962	3 398	200	030	200	31,3580	
	Oct 1993	969	.923	.870	814	4.7560	696	7 2 2	ָ מאַ מאַ	490		0.290	1.164	2.018	2.852		4.463	756 3	96	6.732	455	8.163	8.855	9.531	0.192		3.818	707 7	404 a	0.466	30.02	
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Notes:

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<1> Data Based on Assumed DOS of Apr 1993.
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 for Industrial Sector (NIST Annual Supplement to Handbook 135, Oct 1992).
<3> Region 1: ME, NH, VT, MA, CT, RI, NY, NJ, PA

Table E-3-RO-1. Present Worth Factors--Residual Oil

Number				Be	Beneficial O	Occupancy D	Date			
of Payments	Oct 1993	Oct 1994	Oct 1995	Oct 1996	Oct 1997	Oct 1998	Oct 1999	Oct 2000	Oct 2001	Oct 2002
1	.997	.015			1.0495	1.0589	1.0684	1.0723	1.0687	1.0596
7	.013	.046	•	•	•	Ξ.	•	2.1410	7	•
m	.043	.086	•	•	•	ς.	•	3.2005	Ξ.	•
4	083	135	•	•	•	d	•	4.2450	7	•
· w	5.1333	5.1946	5.2472	5.2893	5.3177	~	5.3134	5.2718		
4	192	. 263	1 4	6.3580		, ·		ı N	.196	•
.	•		•	•	•			C	164	•
- 0	200	2000	7.5	0/17.0	•	•	•	10	111	•
x 0 (200.	***		•	•	•	•	1 -	037	•
. 61	10.4611	10.5080	10.5190	10.4970	10.4453	10.3638	10.2517	10.1097	9.9442	9.7628
-	1 2 2	1 524	-	11 4856	-	310	11.1781		.831	10.6309
	0001		• •	2 0	12 3600	200	12.0848	-	v	•
	7.55	7.040		004.9	•		; c	; c	9 7 9	. "
	3.540	3.531	. 4	3.40	13.2865	. 143	12.9122	•		"
	4.529	4.499	4.4	4.326	4.	4.031	ή.	'n.	.313	7,
15	15.4971	46	m.	5.233	'n	σ.	4	4	. 190	5
16	6.443	6.372	6.26	6.1	L,	15.7483	5.519	5.262	4.983	.688
7 5	210	070 6	7 15		ď	578	6.331	6.056	5.757	.442
) P	2,50	777.0	. a	, ,	-	. 67	7.12	6.8		.17
9 6	154	0.10	8	8	00		7.898	7.583	7.246	.892
20	20.0325	19.8841	19.6985		19.2328	5	652	.318	961	89
1.0	188	20, 714	اح	0.273		19.7111	19.3867	19.0335	.657	18.2671
7 7 7	1 711	21,525	, -	1.04	0	4	.101	19.7300	9.33	18.9263
3 6	5 523	22.319		1.800	_	1.160	•	20.4080	9.995	. 566
24	3.3.6	23.093		2.535	S	1.8	.476	~	0.635	.187
25	24.0904	23	23.5654	250	22.9067	22.5353	35	~	1.255	0.788
30	7.668	27.330	6.9	II VO	6.1	25.6389	വ	4.	4.07	23.5173
ם כ	2000	366.06	σ	σ	8	œ		7	6.46	•
n C	217	000000000000000000000000000000000000000	, ,	٦,	1.1	0	ത	6	8.48	•
, 4 7	5.646	35.053	4.4	וחו	3.1	32.4051	31.6881	30.9504	0.19	ġ
20	37.5384	36		35.4873	34.7563	4.	m	2	1.64	•

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum
of Agreement on Criteria/Standards for EA/LCC for MILCON Design.
Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes
for Industrial Sector (NIST Annual Supplement to Handbook 135, Oct 1992).
<3> Region 1: ME, NH, VT, MA, CT, RI, NY, NJ, PA

ENERGY STUDIES: REGION 1

Table E-3-NG-1. Present Worth Factors--Natural Gas

Number				Be	Beneficial O	Occupancy D	Date			
of Payments	Oct 1993	Oct 1994	Oct 1995	Oct 1996	Oct 1997	Oct 1998	Oct 1999	Oct 2000	Oct 2001	Oct 2002
-	.981	6		6.	.912	.909	.911	ο.	.913	•
2 2	.943	1.9061	1.8692	1.8380	1.8226	1.8215	2	~	1.8252	1.8190
ım	.887	83	•		.734	.733	.737	2.7376	.732	
4	.812	74	•	•	.646	.647	.649	.644	.633	9
יטי	4.7251	9		ri.	.560	. 559	.556	.545	. 524	4
9	.634	5	.516	.485	47	5.4662	.457	.436	•	.355
, ,	546	4	429	.397	.37	.367	.348	.314	4	.216
- 00	459		341	304	.28	.258	.226	.181	٦.	.074
) o	372	۳.	7		8.1712	8.1362		8.0418	7.9881	7.9227
10	9.2843	9.2103	149	960	.04	.002	.953	.900	æ	. 752
	0.191	0.111	0	9.9741		.863	9.8123	.74		.564
	1.092	1.002	Ö	0.840	0.776	0.722	9	0.57	•	0.358
	1.9	ဆ	11.7849	11.7013	3	11.5699	11.4901	11.3902	11.2718	11.1350
	2.861	2.746	8	N	2.482	2.399	ų.	2.18	•	1.894
15	727	3.607	œ.	3.407	3.312	3.211	0	2.96	• ;	2.635
	4 588	4.46	4	14.2377	4.124	4.005	13.8725	3.719	3.549	3.359
	F. 447	5.31	ď	L.	4.918	4.782	4.6	4.461	4.272	4.064
	5.9	9	S	15.8437	15.6951		15.3732	15.1851	14.9778	
	7.124	6.95	9	ဖ်	6.454	6.282	6.0	5.890	5.664	5.420
20	936	.74	•	17.3792	7.195	7.006	6.8	6.57	6.333	6.071
	8.730	18.5263	8.32	18.1209	17.9196	17.7117	17.4889	7.245	6.984	05
	9.507	9.285	9.06	8.844	8.624	8.398	.157	.897	7.619	.322
	0.266	0.027	9.78	9.549	9.311	9.067	.809	8.531	8.235	.921
	1.0	0.750	ö	0.2	19.9804	19.7188	19.4432	19.1480	18.8342	ທຸ
25	731		.18	.905	.631	0.352	.059	9.746	9.414	.063
30	5.078	4.71	4.3	3.9	3.623	3.255	.873	2.4	2.052	1.615
3 7	7.980	7.52	7.0	6.6	6.175	5.724	.261	4.7	4.285	3.776
0.4	۰0	29.9147	29,3844	28.8578	28.3366	α	28	26.7358	26.1768	25.6053
45	2.539	1.93	1.3	0.7	0.165	9.583	.993	8.3	7.77	7.153
50	308	3.64	2.9	2.3	1.713	1.080	.441	9.7	9.132	8.463

Notes:

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum
 of Agreement on Criteria/Standards for EA/LCC for MILCON Design.
 Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes
 for Industrial Sector (NIST Annual Supplement to Handbook 135, Oct 1992).
<3> Region 1: ME, NH, VT, MA, CT, RI, NY, NJ, PA

Table E-3-SC-1. Present Worth Factors--Steam Coal

Number				Be	Beneficial Oc	Occupancy D	Date			
of Payments	Oct 1993	Oct 1994	Oct 1995	Oct 1996	Oct 1997	Oct 1998	Oct 1999	Oct 2000	Oct 2001	oct 2002
-	975	.957	0.9369	0.9111		8	8	0.8357	0.8120	0.7929
٥١	933	894	•	. 799	1.7567	1.7215	1.6888	.647	•	•
יי	870	805	•	.667	•	'n	'n	.440	•	•
> 4	781	694		.521	•	r,	Ġ	.218	•	•
r LO	4.6700	4.5625	4.4579	4.3567	4.2576	4.1621	•	.981	• 1	• 1
v	5.38	415	1 4	.168	5.0504		₩.	. 7	.633	4.5466
י כ		251	•	961		•	<u>.</u>	4.	.358	•
~ a	100	063	• •	739		6.4527	٠.	9	6.0683	5.9541
ο σ	977	85.6	•	502	. [7]	•	٠.	6.9	.766	•
`임	8.8321	8.6341	8.4393	8.2522	8.0793			7.6	.451	7.3075
	619	207	9 1891	066	۱۹	625	.45	8.2867		7.
	372	146	927			9.3233	H	.955	8.7718	8.5966
	1001	288.0	0.652	0.425		.008	89	9.6075	•	6
	1.861	1,609	1,3	1.122	8.0	0.676	0.46	0	•	6
15	12.5858	12.3196	59	807	L)	•	.09	.865	o l	10.
16	3 295	3.017	2.7	2.476	12.2174	1.965		.472	i	.0
7 -	200 6	3,702	7.6	3,128	2	2.587	4	.064	ä	1.5
\ C	4.678	4.370	4.0	3.765	'n	'n	12.9172	ä	12.3698	12.1081
3 5	5.346	5.023	4.7	4.386	4	3.785	ω,	.205	ö	2.6
20	15.9991	15.6599	15.3236			.363	4.	3.755	<u>ښ</u>	3.1
	6.35	18 281	L.	5.5	15.2516	14.9270	14.6089	14.2928	3.981	3.6
	7 257	16.887	Ġ	9	5.81	5.477	.145	4.8	4.	14.1799
	7 863	17.479	,	6.7	6.36	6.014	5.670	5.328	4.991	4.6
	A 455	18.057	7	7.2	6.9	.53	16.1815	27	5.479	5.1
25	19.0333	18	18.2137	æ	. 42	7.049	6.680	6.314	5.954	5.6
OE.	1 719	21.243		0.3	19.8642	19.4287	6	8.580	8.166	•
3 2	900	23 564	,	6	2.022	1.53	H	0.586	0.124	•
n C	7.00 Y	25.55	, ני	4	'n	23,4002	22.8784	22,3634	21.8578	21.3680
2 4	070	27.440	ė	6.2	5.625	5.05	4	3.936	3.393	Φ.
20	29.7216	29	28.3943		123	6.51	Ŋ	5.329	4.752	•

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum
of Agreement on Criteria/Standards for EA/LCC for MILCON Design.
Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes
for Industrial Sector (NIST Annual Supplement to Handbook 135, Oct 1992).
<3> Region 1: ME, NH, VT, MA, CT, RI, NY, NJ, PA

ENERGY STUDIES: REGION 1

Table E-3-LP-1. Present Worth Factors -- Liquified Petroleum Gas (LPG)

Number				Be	Beneficial O	Occupancy D	Date			
of Payments	Oct 1993	Oct 1994	Oct 1995	Oct 1996	Oct 1997	Oct 1998	Oct 1999	Oct 2000	Oct 2001	Oct 2002
	.962	.927	6		.872	.858	8	8.	.812	. 79
1 0	.889	.830		1.7603	1.7313	0	1.6751	1.6423	0	1.5669
ım	. 792	.718	9	•	.576	.533	4.	4.	.379	.32
7	680	590	'n	•	.406	.346	7	7	.132	.05
· W		4.4495	4.3668		.218	.139	٠.	6.	.865	.76
٠	411	294			.012	٠,	8.	•	.57	.457
, ,	256	124		•	.785	9	5	•	.26	.130
- α	086	937		•	6.5388		6.2525	9660.9	5.9425	5.7834
ο σ	898	730		•	.271	7	o.	•	. 59	.420
10	8.6924	8.5039	8.3291	8.1590	.983	Φ.	9	•	.23	.043
	.465			.871	8.6761	.476	.270	.062	.855	.652
	0.219	989		.563	.348	.129	.907	.685	.465	.249
	0.951	0.702		0.236	0.002	.766	.530	.295	.061	.832
	1.663	1.39		0	10.6389	ö	ö	89	9.6445	9.4020
15	12.3562	067	11.7925	526	1.262	.998	.736	.474	.214	.958
	3.029	2.720	429	2.149	1.871	1.595	1.319	.04	0.771	0.5
	3.682	3,357	.052	2.759	2.467	2.178	1.889	.60	1.314	1.0
	4.31	9.6	13,6619	13,3554	05	12.7480	12.4464	12.1447	4	11.5475
	4.942	4.589	.258	3.938	3.620	3.305	2.989	.67	2.359	2.0
20	551	15.1860	.841	. 508	4.177	3.848	3.519	. 18	2.862	2.5
21	6.148	5.769	41	5.06	4.721	4.377	4.035	3.692	3.351	.015
22	6.7	9	15,9680	9	25	.89		.18	2	3.4
23	7.300	6.895	.51	6.13	5.766	5.395	5.026	4.657	4.290	.927
2.4	7.857	7.439	.04	6.65	6.268	5.884	5.502	5.120	4.739	4.363
25	.401	.968	.55	7.15	6.757	6.361	5.965	5.569	5.175	4.785
30	0.913	0.414	9.936	6	9.004	8.5	1	7.615	7.156	6.701
) C	3,003	2.527	1.982	_	0.9	0.3	19.870	9.349	8.833	8.324
S &	4.947	4.320	3.716	'n	2.5	1.9	21.388	0.817	0.253	9.697
. 4 	6.516	5.838	18	24.5471	σ	23.2917	22.		2	æ
20	27.8446	27.1227	6.427	5	S.	4.4	23.760	3.112	2.472	1.843

Notes:

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum
of Agreement on Criteria/Standards for EA/LCC for MILCON Design.
Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes
for Residential Sector (NIST Annual Supplement to Handbook 135, Oct 1992).
<3> Region 1: ME, NH, VT, MA, CT, RI, NY, NJ, PA

Table E-3-EL-2. Present Worth Factors -- Electricity

0.9564 0.9202 0.8881 0.8474 0.8088 0.7803 0.7556 1.8767 1.8084 1.7355 1.6561 1.5891 1.5359 1.4887 2.7648 2.5542 2.4364 2.3447 2.2890 2.1965 2.7648 2.5542 3.4364 2.347 2.2890 2.1965 2.7648 2.5642 3.2456 3.0921 3.0622 3.0748 2.9768 2.9768 2.8999 4.2294 4.209 4.2294 2.2968 2.8999 2.8956 5.7335 5.5210 5.3164 5.1320 4.9670 4.3233 4.1867 7.3977 7.1242 6.2045 5.9794 6.3120 4.9670 4.3233 4.1867 7.3977 7.1242 7.2462 7.0000 6.7712 6.5997 8.0811 7.7877 7.5113 7.2462 7.0000 6.7712 6.5497 9.0545 8.7355 8.4273 8.1388 7.2870 7.6226 9.3879 9.0545 8.9794 8.7389 8.1388 7.8370 7.6226 10.0109 9.6557 9.8743 9.2261 9.2016 8.8987 8.6078 10.0109 9.6557 9.8743 9.2261 9.2016 8.8987 8.6078 11.1920 10.7945 10.4142 10.0490 9.7075 9.3881 9.0813 11.320 11.3344 10.9371 10.5549 11.206 11.6067 11.2265 11.3344 10.9371 10.5549 11.206 11.6067 11.2277 11.1285 11.3396 12.8526 12.4059 11.3749 11.0066 11.0066 11.0066 11.3064 11.3144 11.0066 11.3044 11.3049 11.0066 11.0	Number				Be	Beneficial O	Occupancy D	Date			
0.9564 0.9202 0.8881 0.8474 0.8088 0.7803 0.7556 1.8767 1.8084 1.7355 1.6561 1.5891 1.5359 1.4887 2.7648 2.6557 2.5442 2.3447 2.2340 2.2340 2.3447 3.6121 3.4648 4.0801 3.9251 3.7078 2.9768 2.8799 4.4209 4.2448 4.0801 3.9251 3.7078 2.9768 2.8799 5.9568 5.7335 5.5210 5.3164 5.7328 4.9570 4.3233 4.1867 5.2012 5.0004 4.8133 4.6329 4.4690 4.3233 4.1867 5.2012 5.0004 4.8133 4.6329 4.4690 6.7323 4.1867 7.3977 7.1247 6.8675 6.6232 6.3988 6.1912 5.9909 8.7441 8.4315 8.1343 7.8474 7.5799 7.3300 7.0897 9.0545 8.7355 8.4273 8.1388 7.8700 7.6126 10.0109 9.6557 9.3156 9.8743 9.5261 9.2016 8.897 8.6078 11.1920 10.7945 10.4142 10.0490 9.7075 9.3881 9.0813 11.22908 11.8573 11.4421 10.5449 10.3197 9.9827 11.2277 11.2285 11.577 11.2285 11.577 11.2285 11.577 11.2285 11.577 11.2285 11.577 11.2285 11.577 11.2285 11.577 11.2285 11.577 11.2285 11.577 11.2285 11.577 11.2285 11.577 11.2285 11.577 11.2285 11.577 11.2285 11.577 11.2285 11.577 11.5586 11.577 11.5586 11.5797 11.5586 11.5797 11.5586 11.5797 11.5586 11.5797 11.5797 11.5586 11.5797 11.5586 11.5797 11.5586 11.5797 11.5797 11.5586 11.5797 11.5586 11.5797 11.5586 11.5797 11.5586 11.5797 11.5586 11.5797 11.5586 11.5797 11.5586 11.5797 11.5586 11.5797 11.5586 11.5797 11.5586 11.5797 11.5586 11.5797 11.5586 11.5797 11.5797 11.5586 11.5797 11.5586 11.5797 11.5586 11.5797 11.55870 11.5797 11.5586 11.5797 11.5586 11.5797 11.5586 11.5797 11.5586 11.5797 11.5797 11.5794 11.5	Payments	199	199	19	-			1	oct 2000	Oct 2001	Oct 2002
1.8767 1.8084 1.7355 1.6561 1.5891 1.5359 1.4887 2.7648 2.6557 3.5442 3.1920 2.3447 2.2690 2.1965 3.6620 4.2448 4.0801 3.9251 3.7855 3.6602 3.5430 4.4209 4.2448 4.0801 3.9251 3.7855 3.6602 3.5430 5.2012 5.0004 4.8133 4.6329 4.4690 4.3233 4.1867 6.6899 6.4413 6.8675 6.6232 6.3988 6.1912 5.9909 7.3977 7.1247 6.8675 6.6232 6.3988 6.1912 5.9909 8.7441 8.4315 8.1343 7.8462 7.0000 6.7712 6.5497 8.0811 7.7877 7.5113 7.2462 7.0000 6.7712 6.5497 10.0109 9.6557 9.3144 7.5462 7.0000 6.7712 6.5497 10.0109 9.6557 9.3143 7.2462 7.0000 6.7712 6.5497<	-	.956	<u>۰</u>	8	.847						.683
2.7648 2.6557 2.5442 2.4364 2.2690 2.1965 3.6121 3.4645 4.0846 3.1920 3.0778 2.9768 2.9768 3.6221 3.2446 4.0801 3.21920 3.1955 3.5859 2.8499 5.9568 5.7335 5.5201 5.3164 5.1320 4.9670 4.8098 6.6899 6.4413 6.2045 5.9794 5.7758 5.5901 5.4100 8.0811 7.7247 7.5113 7.2462 7.0000 6.7712 6.5499 8.0813 7.7247 7.5113 7.2462 7.0000 6.7712 6.5499 8.7441 8.4315 8.1343 7.8444 7.7300 7.0897 9.5901 10.0109 9.6557 9.3154 8.9861 8.6861 8.8987 8.1184 11.1920 10.7356 9.8743 9.2216 8.8987 8.1084 11.1920 10.7354 10.4442 10.0490 9.7075 9.3817 9.0813 11.192	~	.876	æ		9.	•	•	•	•	•	.346
3.6121 3.4645 3.3245 3.1920 3.0778 2.9768 2.8799 4.4209 4.2448 4.0801 3.9251 3.7855 3.6602 3.5430 5.2012 5.0004 4.8133 4.6329 4.4690 4.3233 4.1867 5.9568 6.7413 6.2045 5.9344 5.7758 6.5901 5.4100 6.6899 6.4413 6.6675 6.6232 6.3988 6.1912 5.9909 8.0811 7.7877 7.5113 7.2462 7.0000 6.7712 6.5497 8.0811 7.7877 7.5113 7.2462 7.0000 6.7712 6.5497 8.0811 7.7877 7.2462 7.0000 6.7712 6.5497 9.3879 9.0545 8.7355 8.4273 8.1388 7.8700 7.6126 10.0109 9.0545 9.7841 10.0442 10.0490 9.7075 9.3861 9.0813 11.1920 10.7945 10.4442 10.0490 9.7075 9.8616 9.	ო	.764	φ.	'n	4.	e.	•	•	•	•	.990
5.2012 5.0004 4.8133 4.6229 4.4690 4.3233 4.1867 5.2012 5.0004 4.8133 4.6329 4.4690 4.3233 4.1867 6.6899 6.4443 6.2045 5.9794 5.7120 4.9670 4.8098 7.3977 7.1247 6.8675 5.9794 5.7120 6.5497 8.4110 8.0811 7.7877 7.5113 7.2462 7.0000 6.7712 6.5497 8.0811 7.7877 7.5113 7.2462 7.0000 6.7712 6.5497 9.3879 9.0545 8.7355 8.4273 8.1388 7.8700 7.6126 10.0109 9.6557 9.3154 8.9661 8.8897 8.6083 8.6138 11.1920 10.7945 10.4142 10.0490 9.7075 9.3881 9.0813 11.1920 10.7945 10.4442 10.0490 9.7075 9.3881 9.0813 11.1920 10.7945 10.4421 10.0490 9.7075 9.8616	4	.612	4	e,	٦.	0	•	•	2.7874	2.6980	н
5.2012 5.0004 4.8133 4.6529 4.4690 4.3233 4.1867 5.9568 5.7335 5.5210 5.3164 5.1320 4.9670 4.8098 6.6899 6.4413 6.2045 5.3164 5.1320 4.9670 4.8098 7.3977 7.1247 6.8675 6.2045 5.9794 5.7920 5.9912 5.9910 8.0811 7.1247 7.513 7.2462 7.0000 6.7712 6.5497 8.7441 8.4315 8.1343 7.2462 7.0000 6.7712 6.5497 9.3879 9.0545 9.3154 8.9861 8.7870 8.1184 10.0109 9.6557 9.3154 8.9861 8.6787 8.3929 8.1184 10.0109 9.6557 9.3154 8.9861 8.6787 8.9887 8.6078 11.1920 10.7945 10.4442 10.0490 9.7075 9.3811 9.0813 11.1920 10.7945 11.0443 10.6490 9.7075 9.381 9	ن	.420	Ċ	•	o.		•	•	•	•	.214
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10.0109 9.6557 9.3154 8.9861 8.6787 8.3929 8.1184 10.6121 10.2356 9.8743 9.5261 9.2016 8.8987 8.6078 11.1920 10.7945 10.4142 10.0490 9.7075 9.3881 9.0813 11.1920 11.3344 10.9371 10.1549 10.1369 9.8616 9.5394 12.2908 11.8573 11.0430 11.0443 10.0413 10.6704 10.3197 9.9827 12.2908 11.8526 12.4059 11.0777 11.1918 10.4115 1 13.3090 13.3261 12.8640 12.4191 12.0006 11.6067 11.277 1 14.2825 13.7842 13.3072 12.4155 12.0080 11.6159 1 14.7406 14.2274 13.7361 13.2628 12.3961 11.9913 1 15.6127 15.0712 14.5522 14.0523 13.5804 13.1348 12.3545 1 15.0276 15.4725 14.940	12	.387	.054		•	•	•	•	•	7.1191	.88
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11.1920 10.7945 10.4142 10.0490 9.7075 9.3881 9.0813 11.7509 11.3344 10.9371 10.5549 10.1969 9.8616 9.5394 12.2908 11.8573 11.0443 11.0443 10.3197 9.9827 12.2908 11.8573 11.94430 11.0443 10.3197 9.9827 13.3196 12.4059 11.9759 11.5717 11.1918 10.8264 1 13.8090 13.3261 12.4059 12.4191 12.0006 11.6067 11.2277 1 14.2825 13.7842 13.3072 12.8188 12.8168 12.3961 11.9913 1 14.706 14.2274 13.7361 13.2628 12.8168 12.7716 12.3545 1 15.1839 14.6563 14.1510 13.644 13.2494 12.7716 12.3545 1 15.6127 15.0712 14.5522 14.0523 13.5804 13.4861 13.0456 1 16.0276 15.4725 14	14	0.612	0.235	æ	•	.201	•	•	•	8.0507	. 78
11.7509 11.3344 10.9371 10.5549 10.1969 9.8616 9.5394 12.2908 11.8573 11.4430 11.0443 10.6704 10.3197 9.9827 12.8137 12.3632 11.9324 11.5177 11.1285 10.7630 10.4115 1 13.3196 12.8526 12.4059 11.9759 11.15717 11.1918 10.6264 1 13.8090 13.3261 12.8640 12.4191 12.0006 11.6067 11.2277 1 14.2825 13.7842 13.3072 12.8480 12.4155 12.0080 11.6159 1 14.7406 14.2274 13.7361 13.2628 12.3649 12.3716 12.3545 1 15.1839 14.6563 14.1510 13.641 13.2049 12.7716 12.3545 1 15.0276 15.0712 14.9522 14.0523 13.54861 13.0456 1 16.0276 15.4725 14.9404 16.4277 13.9435 13.4861 13.0456 15.8817 1 20.8405 20.1265 19.4406 18.7790	15	1.192	0.794	0.4	ċ	.707	•	•	•	8.4939	.21
12.2908 11.8573 11.4430 11.0443 10.6704 10.3197 9.9827 12.8137 12.3632 11.9324 11.5177 11.1285 10.7630 10.4115 1 13.3196 12.8526 12.4059 11.9759 11.15717 11.1918 10.8264 1 13.8090 13.3261 12.8640 12.4191 12.0006 11.6067 11.2277 1 14.2825 13.7842 13.7361 13.2628 12.4155 12.0080 11.6159 1 14.7406 14.6563 14.1510 13.641 13.2049 12.7716 12.3545 1 15.6127 15.0712 14.9522 14.0523 13.5804 13.1348 12.7058 1 16.0276 15.4725 14.9404 14.4277 13.9435 13.4861 13.0456 1 17.9070 17.2904 16.6988 16.1284 15.582 15.0764 14.5833 1 20.8405 20.1265 19.4406 18.7790 18.1566 17.5536 16.9779 21.9744 21.2227 20.5003 19.8034	16	1.750	1.334	o		0.1		.539	9.2271	8.9228	8.6299
12.8137 12.3632 11.9324 11.5177 11.1285 10.7630 10.4115 1 13.3196 12.8526 12.4059 11.9759 11.5717 11.1918 10.8264 1 13.8090 13.3261 12.8640 12.4191 12.0006 11.6067 11.2277 1 14.2825 13.7842 13.3072 12.8480 12.4155 12.0080 11.6159 1 14.7406 14.2274 13.7361 13.2628 12.3961 11.9913 1 15.1839 14.6563 14.1510 13.641 13.2049 12.3545 1 15.6127 15.0712 14.9404 14.4277 13.9435 13.4861 13.0456 1 16.0276 15.4725 14.9404 14.4277 13.9435 13.4861 13.0456 1 19.4973 18.8280 18.1854 17.5556 16.9776 16.4196 15.8817 1 20.8405 20.1265 19.4406 18.7790 18.1506 17.5536 16.9779 17.9034 1 22.9318 22.1481 21.3949 20.6683 19.770 19.3191 18.6847 1	17	2.290	1.857	ä	•	ö	•	.982	9.6559	9.3377	9.0312
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14.2825 13.7842 13.3072 12.8480 12.4155 12.0080 11.6159 1 14.7406 14.2274 13.7361 13.2628 12.8168 12.3961 11.9913 1 15.1839 14.6563 14.1510 13.6641 13.2049 12.7716 12.3545 1 15.6127 15.0712 14.5522 14.0523 13.5804 13.1348 12.7058 1 16.0276 15.4725 14.9404 14.4277 13.9435 13.4861 13.0456 1 17.9070 17.2904 16.6988 16.1284 15.5882 15.0764 14.5833 1 19.4973 18.8280 18.1854 17.5656 16.9776 16.4196 15.8817 1 20.8405 20.1265 19.4406 18.7790 18.1506 17.5536 16.9779 1 21.9744 21.2227 20.5003 19.8034 19.1409 18.5109 17.9034 1 22.9318 22.1481 21.3949 20.6683 19.9770 19.3191 18.6847 1	20	3.809	3.326	6	•	•	•	.227	10.8603		10.1580
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16.0276 15.4725 14.9404 14.4277 13.9435 13.4861 13.0456 1 17.9070 17.2904 16.6988 16.1284 15.5882 15.0764 14.5833 1 19.4973 18.8280 18.1854 17.5656 16.9776 16.4196 15.8817 1 20.8405 20.1265 19.4406 18.7790 18.1506 17.5536 16.9779 1 21.9744 21.2227 20.5003 19.8034 19.1409 18.5109 17.9034 1 22.9318 22.1481 21.3949 20.6683 19.9770 19.3191 18.6847 1	24	5.612	5.071	4.5	4.0	m	3.1	2.705	2.2	.885	.495
17.9070 17.2904 16.6988 16.1284 15.5882 15.0764 14.5833 1 19.4973 18.8280 18.1854 17.5656 16.9776 16.4196 15.8817 1 20.8405 20.1265 19.4406 18.7790 18.1506 17.5536 16.9779 1 21.9744 21.2227 20.5003 19.8034 19.1409 18.5109 17.9034 1 22.9318 22.1481 21.3949 20.6683 19.9770 19.3191 18.6847 1	25	6.027	5.472	4.9	4.4	3.943	3.4	3.045	2.6	12.2033	.802
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22,9318 22,1481 21,3949 20,6683 19,9770 19,3191 18,6847 1	45	1.974	.222	ö	σ	9.1	ĸ.	7.903	17.3148	16.7431	16.1914
	20	2.931	.148	÷.	0	6.6	9.3	8.684	œ.	.47	6.897

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum
 of Agreement on Criteria/Standards for EA/LCC for MILCON Design.
 Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes
 for Industrial Sector (NIST Annual Supplement to Handbook 135, Oct 1992).
<3> Region 2: OH, IN, IL, MI, WI, MN, IA, MO, ND, SD, NE, KS

ENERGY STUDIES: REGION 2

Table E-3-DO-2. Present Worth Factors--Distillate Oil

Number				Be	eneficial O	Occupancy D	Date			
Payments	Oct 1993	Oct 1994	Oct 1995	Oct 1996	Oct 1997	Oct 1998	Oct 1999	Oct 2000	Oct 2001	Oct 2002
1	.969	.955	6.	6.	.945	6.	6.		.929	.915
7	.925	.903	æ	æ	.890	φ.	æ	.868	.845	.814
m	87	2.8504	2.8402	2.8370	2.8347	2.8286	2.8130	2.7844	2.7441	2.6960
4	.819	.796			.774			.683	.625	.558
ស	.765		•	4.7207	.703	٠.	•	. 564	.487	.400
9	.710	.685	99.	9	9	.572	. 509	.42	.329	.222
7	.654	.624	53	ນ	ı,	.453	.371	.26	.151	.024
- αο	59	55	51	4	7,3994	7.3159	7.2130	7.0908	6.9539	6.8067
0	.523	.469	.41	۳.	7	.157	.035	.89	.736	.570
10	438	9.3686		9.2081	۲.	.979	.837	.67	. 499	.317
11	0.338	.249	0.15	0.05	.92	.782	.619	.438	.246	.048
12	1.219	1.111	0.99	0.87	0.72	0.564	0.383	0.186	.977	.763
13	12.0812	11.9538		11.6746	11.5101	11.3280	11.1303	10.9169	10.6924	4.0
14	2.923	2.775	2.62	2.45	2.27	2.075	1.861	1.631	.391	.145
15	3.745	3.578	3.40	3.22	3.02	2.806	2.576	2.330	2.074	1.813
16	4.547	360	4.168	3.967	3.751	3.520	3.275	3.014	2.742	2.464
7 -	7200	F 123	4.915	4.698	4.466	4.219	3.958	3.682	3.394	3.099
8	16.0933	15.8710	15.6462	15.4131	15,1655	i O	14.6262	14,3335	14.0289	13.7179
19	6.840	6.602	6.361	6.112	5.848	5.571	5.277	4.968	4.647	4.320
20	.571	7.316	7.060	6.795	6.516	6.222	5.912	5.586	5.249	4.906
21	8.286	8.015	7.743	7.463	.168	6.857	6.530	16.1889	.835	.477
22	86	69	4	11.	7.80	17.4757	17.1331	6.7	6.40	16.0325
23	9.668	9.367	9.062	8.749	.421	8.077	7.719	17.3462	.961	.571
24	0.336	0.018	9.697	9.367	9.023	8.664	8.290	7.90	7.500	7.094
25	0.987	0.653	0.315	9.970	9.609	9.235	8.845	8.44	8.023	7.600
30	4.000	3.586	3.169	2.744	2.303	1.848	1.378	0.893	0.397	9.897
35	6.613	6.119	5.622	5.118	4.601	4.071	3.528	2.972	2.408	1.843
40	œ	28.2689	27.7018	27.1296	26.5465	25.9526	25.3479	24.7325	24.1112	23.4897
45	0.717	0.088	9.461	8.831	8.193	7.545	6.888	6.222	5.552	4.883
20	2.310	1.628	0.951	0.272	9.586	8.893	8.191	7.483	6.771	6.063

Notes:

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum of Agreement on Criteria/Standards for EA/LCC for MILCON Design.
Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes for Industrial Sector (NIST Annual Supplement to Handbook 135, Oct 1992).
<3> Region 2: OH, IN, IL, MI, MI, IM, IA, MO, ND, SD, NE, KS

Table E-3-RO-2. Present Worth Factors--Residual Oil

of Payments	Oct 1993	Oct 1994	Oct 1995	Oct 1996	Oct 1997	Oct 1998	Oct 1999	Oct 2000	Oct 2001	Oct 2002
-	004	으	١.	1.0791	١.	•	1.1344	1.1453	1.1454	40
	.041	0	ι.	2.1777	ď	•	?	?	•	•
1 (103	-		•	۳,	•	4.	7	•	•
) <	183			4.4288	7	•	'n	ů	4.5273	4.4778
• ហ		5.3924		5.5740		5.6817	9.	9	• 1	• 1
-	207	508		6.7194	6.7803		8	6.7684	6.6989	. 609
0 1	,,,		•	•	7 9087	•	σ	•	7.7545	.644
	.531	7/0.	•	4.0070	0000	•	١o	•	8.7897	629
o (.677	118.	o a	•	n c			0320	9.8048	. 65
10	9.8224	11.0858	11.1627	11.1972	11.1939	11.1508			10.7990	.626
	060 6	2.199	1 %	12.2730	12.2494		12.0844	.944	۲.	.578
	200 6	3,295	6	(1)	3.2		3.078	.917	.72	2.509
	7000	4.371	4	4	4.29		4.051	.869	φ.	.420
	375	5.426	'n	'n	2	15.1683	15.0036	14.8003	14.5654	14.3100
15	16.4315	16.4618	16.4402		6.26	16.1202	5.934	.710	.45	5.179
16	166	7 476	-	17,3460	1	17.0513	9	9	16.3251	16.0283
) t		7.7		· a	חקר מ	7	,	-	17.1737	w
17	χ. Σ	10.4/1	·σ	9 5	19.0604		18,6047	18,3189	18.0004	17.6603
9 6		305.00	, ,	٠ c	6	7.6	6	თ	•	w
20	21.4009	21.3271	21.2008	21.0294	.820	20.5700	20.2801	ס ו	.53	יט ו
2.	2 332	7 2 3 7 7	c	21.8991	21.6686		21.0854	Ö	۳.	19.9518
1 0	2000	101 5		10		22	.86	$\vec{-}$	۰.	20.6748
7 6	7.7.7	7000				22.9	22.6334	22.2425	21.8202	21.3767
. Y C	F 002	4.845	4	7	4	23,	.37	ä	ĸ.	22.0574
25	25.8507	25.6725	25.4411	25.1640	24.8486	24.4	.09	ω,	ا بہ	22.7166
30	77.7	492	o	28.7768	28.3570	27.8967	7.398	6	~	5.708
ם מ	#	7000	΄ ς	. α	, ,	30,7917	0.198	σ.	an.	B.242
ກ ເ	7.1.5	7.70 5.70 7.00	, נכ	4	, ,	33.2420	N	31.8623	31.1314	30.3868
7 •	210.0	2000	, ,		, ,	35,3161	4.574	ω.	0	2.201
4. n	30.3227	39.9668	39,2927	38,5821	37.8422	37.0717	.272	'n	ш	3.738
0										

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum
of Agreement on Criteria/Standards for EA/LCC for MILCON Design.
Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes
for Industrial Sector (NIST Annual Supplement to Handbook 135, Oct 1992).
<3> Region 2: OH, IN, IL, MI, MI, MN, IA, MO, ND, SD, NE, KS

ENERGY STUDIES: REGION 2

Table E-3-NG-2. Present Worth Factors--Natural Gas

Number			Steel and any of	Be	Beneficial O	Occupancy D	Date			
or Payments	Oct 1993	Oct 1994	Oct 1995	Oct 1996	Oct 1997	Oct 1998	Oct 1999	Oct 2000	Oct 2001	Oct 2002
1	.982	.964			.91		6.		6.	.925
8	σ	.91	1.8753	1.8474	1.8354	1.8376	1.8440	1.8481	1.8500	1.8466
ı m	.893	.839	•	•	.75	•		•		.763
4	.822	.757	•	•	.67	•	9	•	9	.671
ហ	.740	674		•	. 60	•	9.	4.6114	r.	. 566
9	.657	.595	.554		5	.53	.532	.5	.49	•
7	578	.518	479	•	4	.44	.440	4	.37	۳,
· œ	.501	.443	404	•	۳.	.35	.335	4	.25	7
6	.426	.368	8.3263	8.2964	8.2755	8.2523	8.2200	8.1793	8.1349	8.0775
10	9.3515	9.2903	.243	•	۲.	.13	. 100	•	.00	5
11	0.273	0.2	. •	10.0997	.055	0.017	6.	.92	.851	.757
12	1.189	1.1	H	0.984	0.935	0.895	8.0	0.77	0.682	0.569
13	0	12.0102	11.9308	64	11.8143	11.7633	11.6954	11.6052	11.4944	11.3639
14	2.992	2.8	N	12.7432	2.681	2.612	2.5	2.41	2.288	2.140
15	3.877	3.7	m	3.610	3.530	3.442	3.3	3.21	3.065	2.899
16	.757	4.653		4.4	4.36	4.255	4.132	3.9	3.824	3.639
17	5.636	5.521	•	5.2	5.173	5.049	4.909	4.7	4.564	4.361
18		16.3702	16.2368	16.1027	9	15.8261	15.6681	15.4877	15.2859	15.0636
19	7.352	7.200	•	6.8	6.744	6.584	6.408	6.2	5.988	5.747
20	8.183	8.013	•	7.6	7.503	7.325	7.129	6.9	6.672	6.414
	8.995	.807	.620		8.243	8.046	7.832	17.5960	.339	.063
	9.7	9.5	19.3789	19.1728		.74	.51	•	17.9880	6
	0.566	.342	0.119		9.667	9.433	9.183	8.9	8.618	8.306
	1.325	1.083	.840	•	0.352	0.100	9.832	9.5	9.231	8.900
25	99	1.804	1.543	21.2811	1.018	0.748	0.462	0.1	9.825	9.475
30	5.489	.137	4.78	4.433	4	3.718	3.340	6	2.523	2.0
35	8.458	.015	7.57	7.131	ø.	6.244	5.783	L.	4.808	4.2
40		30.4586	29.9362	41	28.9011	28.3821	27.8518	27.3047	26.7431	26.1678
45	3.122	.526	1.93	1.351	ö	0.191	9.602	σ.	8.380	7.7
20	4.932	.276	3.62	2.988	'n	1.723	1.083	7.	9.766	9.0

Notes:

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum
of Agreement on Criteria/Standards for EA/LCC for MILCON Design.
Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes
for Industrial Sector (NIST Annual Supplement to Handbook 135, Oct 1992).
<3> Region 2: OH, IN, IL, MI, MI, IN, IA, MO, ND, SD, NE, KS

Table E-3-SC-2. Present Worth Factors -- Steam Coal

33 Oct 1994 Oct 1994 Oct 1994 Oct 1994 Oct 1994 Oct 1994 Oct 2.7493 2 3.6034 3 4.4325 5 5 6.0275 5 5 6.0275 5 6 6.0275 5 6 6.222 8 8 2.622 8 8 2.622 8 8 2.622 8 8 2.622 8 8 2.622 8 8 2.622 8 8 2.622 8 8 2.622 8 8 2.622 8 8 2.622 8 8 2.622 8 8 2.622 8 8 2.622 8 8 2.622 8 8 2.622 8 8 2.622 8 8 2.622 8 8 2.622 8 8 2.623 11.0215 10.3483 11.0215 11.6827 11.615 14.7615 14.7615 14.7615 14.7615 14.7615 12.22.0331 22.22.2331 22.222.2331 22.2222 22.2231 22.2222 22.2231 22.2222 22.2231 22.22231 22.2222 22.2231 22.2222 22.2231 22.2222 22.2231 22.2222 22.2231 22.2222 22.2231 22.2222 22.2222 22.2222 22.2222 22.2222 22.22222 22.2222 22.2222 22.2222 22.2222 22.2222 22.2222 22.2222 22.22321 22.22222 22.2222 22.2222 22.2222 22.2222 22.2222 22.2222 22.2222 22.	.9180 .8036 .6577 .4868	٦	١	1008				
1 0.9709 0.9457 1.8637 1.9166 1.8637 1.9166 1.8637 1.9166 1.8637 1.9164 4.5743 4.4325 4.4325 4.5743 4.5743 4.4325 4.9325 5.6.2104 6.0275 5.6.9984 6.7944 6.0275 5.9984 6.7944 6.0275 5.9984 6.7944 6.0275 5.9984 6.7944 6.0275 5.9984 6.7944 6.0275 5.9984 6.7944 6.0275 5.9984 6.7944 6.7944 6.7944 6.7944 6.7944 6.7944 6.7948 11.3193 11.0215 10.3483 10.3483 10.3483 10.3485 11.9924 11.6827 11.6827 11.15.7324 15.3336 14.7615 14.7615 14.7615 14.7615 14.7615 14.7615 14.7615 14.7615 14.7615 14.7617 17.9396 17.4877 17.9396 17.4877 17.9396 17.4877 17.9391 22.03391 22.		OCT 1330	Oct 1997		Oct 1999	Oct 2000	Oct 2001	Oct 2002
2 1.9166 1.8637 1.9493 2 3 2.8347 2.7493 2 4 5.743 4.4325 4 6 5.2104 6.2395 5 6 6.9944 6.7944 6 7 7653 7.5384 7 8 5093 8.2622 8 9 9414 9.6652 9 9 9414 9.6652 9 1 9.9414 9.6652 9 1 11.3193 11.0215 10 1 11.3193 11.6827 11 1 11.3924 11.6827 11 1 13.2996 12.3286 12 1 13.2996 12.3286 12 1 13.294 14.7615 14 1 15.7324 15.3336 14 1 15.3346 15.3336 14 1 16.8628 16.4368 16 1 17.4078 16.9687 16 1 17.4877		8	0.8541		.807	0.7880	0.7669	0.7440
3 2.8347 2.7493 2 4 5.743 4.4325 4 5 5.4034 5.2395 5 6 6.2104 6.2395 5 7 7653 7.5384 7 9 2.2331 8.9705 8 1 9.2414 9.6652 9 3 10.6361 10.3483 10 4 11.3193 11.0215 10 1 13.2996 12.9592 12 1 13.2996 12.9592 12 1 13.2996 12.9592 12 1 13.2996 12.9592 13 1 13.2996 12.9592 13 1 14.5456 14.7615 14 1 15.7324 15.3336 14 1 15.3346 15.8919 15 1 16.8628 16.4368 16 1 17.4078 16.9687 16 1 17.9396 17.4877 17 1 17.9396 <td< td=""><td></td><td></td><td>•</td><td>1.6361</td><td>1.5951</td><td>•</td><td>ທຸ</td><td>.467</td></td<>			•	1.6361	1.5951	•	ທຸ	.467
4 3.7202 3.6034 3 5 4.5743 4.4325 4 6 5.2034 3 4.4325 4 7 6.2104 6.0275 5 5 8 6.9984 6.0275 5 5 9 7.7653 7.5384 7 7 1 7.7653 8.2622 8 8 1 9.2331 8.9705 8 8 1 9.9414 9.6652 9 9 96552 9 1 11.3193 11.0215 10 11 10 11 10 11 10 11 10 11 10 11 10 11 10 11 10 11 10 11 10 11 10 11 10 11 11 10 11 10 11 11 11 12 12 13 13 13 14 14 14 14		'n	•	•	.361	•	Ċ	.176
6 5.4034 5.2395 5 7 6.2104 6.0275 5 8 6.2104 6.0275 5 9 7.7653 7.5384 7 1 7.7653 8.2622 8 1 9.2331 8.9705 8 2 9.9414 9.6652 9 4 11.3193 11.0215 10 1 11.9924 11.6827 11 1 13.2996 12.3286 12 1 13.2996 12.9592 12 1 13.2996 14.7615 14 1 15.7324 15.3336 14 1 15.3462 14.7615 14 1 15.324 15.8919 15 1 16.8628 16.4368 16 1 17.4078 16.9687 16 1 17.9396 17.4877 17 1 17.9396 17.4877 17	• •	T.	•	•	.105	•	o,	.870
6 5.4034 5.2395 5 8 6.9984 6.7944 6 9 7.7653 7.5384 7 1 9.2331 8.2622 8 2 8.5093 8.2652 8 2 9.9414 9.6652 9 3 10.6361 10.3483 10 4 11.3193 11.0215 10 11 1924 11.6827 11 13 13.2996 12.3286 12 13 13.2996 12.9592 12 14 5456 14.7615 14 15 13.2445 14.7615 14 16 3045 15.8919 15 16 16.8628 16.4368 16 16 17.4078 16.9687 16 16 22.6031 22.6031 22.0331 21		4.1638	4.0451	3.9350	.829	•	۱۰	.554
6.2104 6.0275 5 6.9984 6.7944 6 7.7653 7.5384 7 8.5093 8.2622 8 1.9231 8.9705 8 9.9414 9.6652 9 10.6361 10.3483 10 11.3193 11.0215 10 11.9924 11.6827 11 13.996 12.9592 12 13.996 12.9592 12 13.9301 13.5746 13 14.5456 14.7615 14 15.7324 15.3336 14 16.3045 15.8919 15 16.3045 16.9687 16 17.9396 17.4877 17		ຸ ຄ			.538	•	٠,	.227
8 6.9984 6.7944 6 9 8.5093 8.2622 8 1 9.2331 8.9705 8 2 9.9414 9.6652 9 3 10.6361 10.3483 10 11.3193 11.0215 10 11.3924 11.6827 11 12.6537 12.3286 12 13.9301 13.5746 13 14.5456 14.1753 13 15.7324 15.3336 14 16.3045 15.8919 15 16.8628 16.4368 16 16.20430 19.9017 17 17.9396 17.4877 17 17.9396 12.22.0391 21		9	S.	•	.232	•	ō.	.888
1 9.2331 8.2622 8 1 9.2331 8.2622 8 2 9.9414 9.6652 9 3 10.6361 10.3483 10 11.3193 11.0215 10 11.9924 11.6827 11 13.2996 12.3286 12 13.9301 13.953 14 14.5456 14.1753 13 15.7324 15.3336 14 16.3045 15.8919 15 16.3045 16.9687 16 17.4078 16.9687 16 17.9396 17.4877 17 17.9396 12.20391 22.6031		6.3985	6.2212	6.0618	5.9159	5.7820	5.6552	m
9.2331 8.9705 8 9.9414 9.6652 9 10.6361 10.3483 10 11.3193 11.0215 10 11.9924 11.6827 11 13.2996 12.9592 12 13.2996 12.9592 12 13.2996 12.9592 12 13.2996 12.9592 12 14.5456 14.754 13 15.7324 15.3336 14 16.8628 16.4368 16 17.4078 16.9687 16 17.9396 17.4877 17		7	ຶ	•	.589	•	r.	.164
9.2331 8.9705 8 9.9414 9.6652 9 10.6361 10.3483 10 11.3193 11.0215 10 11.9924 11.6827 11 13.2996 12.3286 12 13.2996 12.9592 12 13.2996 12.9592 12 13.2996 12.3286 12 14.5456 14.1753 13 15.1462 14.7615 14 16.3045 15.8919 15 16.3045 16.9687 16 17.4078 16.9687 16 17.9396 17.4877 17		Φ.	r.	•	.250	•	6.	. 780
9.9414 9.6652 9 10.6361 10.3483 10 11.3193 11.0215 10 11.9924 11.6827 11 13.2996 12.9592 12 13.2996 12.9592 12 13.2996 12.9592 12 13.5465 14.753 13 15.7324 15.3336 14 16.3045 15.8919 15 16.8628 16.4368 16 17.4078 16.9687 16 17.9396 17.4877 17	۱,	8.4846	.272	.079	7.8962	.71	5	.380
10.6361 10.3483 10 11.3193 11.0215 10 11.9924 11.6827 11 13.2996 12.9592 12 13.2996 12.9592 12 13.2996 12.9592 12 14.5456 14.1753 13 15.7324 15.3336 14 16.8628 16.4368 16 17.4078 16.9687 16 17.9396 17.4877 17	7	.157	93	8.7252	. 52	8.3351	8.1478	7.9671
6 12.6537 12.3286 12 13.2996 12.9592 12 13.2996 12.9592 12 13.2996 12.9592 12 13.2996 12.9592 12 14.5456 14.1753 13 15.7324 15.3336 14 16.8628 16.4368 16 17.4078 16.9687 16 17.9396 17.4877 17		819	.579	.355	.142	.93	۲.	.539
6 12.6537 12.3286 12 13.2996 12.9592 12 13.2996 12.9592 12 13.9301 13.5746 13 14.5456 14.1753 13 15.1462 14.7615 14 16.3045 15.8919 15 16.8628 16.4368 16 17.4078 16.9687 16 17.9396 17.4877 17		0	0.210	.971	742	. 52	r.	.097
6 12.6537 12.3286 12 13.2996 12.9592 12 13.9301 13.5746 13 14.5456 14.1753 13 15.1462 14.7615 14 15.7324 15.3336 14 16.3045 15.8919 15 16.8628 16.4368 16 17.4078 16.9687 16 17.9396 17.4877 17	11.3829	095	.825	.571	.329	.09	.864	.642
13.2996 12.9592 12 13.9301 13.5746 13. 14.5456 14.1753 13 15.1462 14.7615 14 15.7324 15.3336 14 16.8628 16.4368 16 17.4078 16.9687 16 17.9396 17.4877 17	2.013	1.7	1.426	1.158	0.901	9.	4.	0.174
13.9301 13.5746 13.1759 13.1759 13.1759 13.1759 13.1759 13.17515 14.17515 14.17515 14.17515 14.17515 14.17515 14.17515 14.17515 15.8919 15.8919 15.15.8919 15.15.8919 15.15.8919 15.15.8919 15.15.8919 15.15.8919 15.20.4130 19.9017 19.22.56031 22.0391 23.15.15	2.628	2.3	2.012	1.730	1.459	٦.	ō.	0.693
14.5456 14.1753 13 15.1462 14.7515 14 15.1462 14.7615 14 2 16.3045 15.8919 15 16.8628 16.4368 16 4 17.4078 16.9687 16 17.9396 17.4877 17 0 20.4130 19.9017 19	3	8	12.5843		12.0044	11.7292	11.4602	11.1999
1 15.7324 15.3336 14 1 15.7324 15.3336 14 1 16.8628 16.4368 16 4 17.4078 16.9687 16 17.9396 17.4877 17 0 20.4130 19.9017 19	3.815	3.4	3.142	2.833	2.536	7	σ.	1.694
1 15.7324 15.3336 14 2 16.3045 15.8919 15 3 16.8628 16.4368 16 4 17.4078 16.9687 16 5 17.9396 17.4877 17 0 20.4130 19.9017 19	4.387	•	3.687	3.365	3.055		12.4612	2.176
16.3045 15.8919 15 16.8628 16.4368 16 17.4078 16.9687 16 17.9396 17.4877 17 0 20.4130 19.9017 19	4.94	4.57	4.21	3.884	3.561	13.2492	2.94	12.647
16.8628 16.4368 16 17.4078 16.9687 16 17.9396 17.4877 17 0 20.4130 19.9017 19 5 22.6031 22.0391 21	5.49	5.10	4.73	.390	4.056	m	3.41	13.107
4 17.4078 16.9687 16 5 17.9396 17.4877 17 0 20.4130 19.9017 19 5 22.6031 22.0391 21	6.02	Φ			.5	14.2026	13.8742	13.5559
5 17.9396 17.4877 17 0 20.4130 19.9017 19 5 22.6031 22.0391 21	6.54	6.13	5.73	15.3678	5.009	4	4.32	13.993
20.4130 19.9017 1	7.0	6.62	6.22	5.838	5.469	r.	4.76	14.420
22.6031 22.0391 2	4.6	18.9242	18.4660	8.02	7.606	7.196	7	6.407
1000 CC	1.4	9	0.452	9	9.499	9.043	π	8.167
74.5423 23.931/	. 6		2.212	1.685	1.175	0.679	٦.	9.725
5 25.2594 25.6075 2	4.9	24.3591	23.7701	23.2054	22.6589	22.1275	21.6086	21.1044
0 27.7798 27.0913 2	9	25.7724	5.149	4.551	3.972	3.409	œ	2.325

<1> Data Based on Assumed DOS of Apr 1993. Notes:

Authorized Period of Use of Table is Oct 1992 through Sep 1993.
Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum of Agreement on Criteria/Standards for EA/LCC for MILCON Design.
Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes for Industrial Sector (NIST Annual Supplement to Handbook 135, Oct 1992).
Region 2: OH, IN, IL, MI, MN, IA, MO, ND, SD, NE, KS <2>

ENERGY STUDIES: REGION 2

Table E-3-LP-2. Present Worth Factors--Liquified Petroleum Gas (LPG)

Number				Be	Beneficial O	Occupancy D	Date			
oi Payments	Oct 1993	Oct 1994	Oct 1995	Oct 1996	Oct 1997	Oct 1998	Oct 1999	Oct 2000	Oct 2001	Oct 2002
1		.929	0.9089		0.8947	.88	0.8828	.87	.860	.845
8	•	ω.	•	1.7960	1.7833	1.7715	1.7566	1.7347	1.7065	1.6737
m	•	.739	•	.684	999.	.64	.617	.58	.534	.483
4	•	.634	3.5936	.56	•	.50	•	.40	.344	.274
· w	4.5964	522		.441	.400	.35	.291	.21	.135	.046
9	.485	.405	5.3501	.302	.246	.17	.101	.009	.907	. 799
7	367	.279	7	.147	.074	.98	.892	.781	.660	.533
- 00	241	140	0	6.9759	88	6.7809	6.6640	6.5340	σ	6.2486
6	102	986	ထ	.785	.675	.55	.416	.268	.109	.946
10	8.9481	8.8141		.576	.447	.30	.151	.983	.807	.629
	.776	9.6240	.485	9.3487	.200	.039		.681	.490	.298
	0.586	0.415	0.257	0.1		.754	•	.364	.158	.951
	1.377	1.186	1.010	9.0	0.649	0.452	ö	0.032	.812	. 590
	2.1	_	-	11.5508	E		ö	10.6863	10.4516	10.2155
15	901	673	.459	2.2	2.030	1.804	Ϊ.	1.325	1.076	0.826
16	3.6	3.38		2.931	2.698	2.45	2.208	1.9	1.686	1.42
12	4.3	4.08	8	3.600	3.352	3.09	2.832	2.5	2.282	2.00
18	5.0	4.77	4.5	4	13.9915	13.7216		13.1564		12.5674
16	5.7	5.43	5.1	4.892	4.616	4.33	4.039	3.7	3.428	3.11
20	16.4005	16.0919		517	5.226	4.92	4.619	4.3	3.978	3.65
	7.054	6.731	6.4	6.128	5.822	15.5082	15.1849	14.8527	14.5151	4.176
		17,3558		16.7239	16.4029	6.073	5.735	5.38	.03	9
	8.318	7.966	7.6	7.304	6.968	16.6241	.27	5.910	44	5.176
	8.928	8.562	8.2	7.869	7.518	7.160	6.793	6.418	6.037	5.654
25	.524	9.142	8.7	8.420	8.054	7.682	7.301	6.911	6.515	6.117
30	2.2	1.824	1.3	0.95	0.517	0.071	6	9.153	8.685	8.217
35	4.6	4.139	3.6	3.12	2.618	2.103	1.582	1.054	0.524	9.696
40	26.7000	26.1052	25.5312	24.9660	24.3970	23.8238	23.2461	Ó	œ	21.5016
45	8.4	7.769	7.1	6.52	5.902	5.279	4.654	4.026	3.398	2.775
20	9.8	9.177	8.5	7.83	7.176	6.512	5.84	5.179	4.513	3.854

Notes:

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum
 of Agreement on Criteria/Standards for EA/LCC for MILCON Design.
 Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes
 for Residential Sector (NIST Annual Supplement to Handbook 135, Oct 1992).
<3> Region 2: OH, IN, IL, MI, WI, MN, IA, MO, ND, SD, NE, KS

¹⁵

Table E-3-EL-3. Present Worth Factors--Electricity

Number				Bei	Beneficial Oc	Occupancy D	Date			
of Payments	Oct 1993	Oct 1994	Oct 1995	Oct 1996	Oct 1997	Oct 1998	Oct 1999	Oct 2000	Oct 2001	Oct 2002
-	.963	.935	.902	0.8691	.83		0.7954	0.7783	0.7578	
10	898	.838	.771		1.6542	1.6097	.57	ĸ.	.495	.453
1 (108	707	.611	'n	.44	•	.33	7	.211	.151
) <	670	547	425		. 22	•	• 06	ď.	.909	.828
មេ	4.5103	4.3614	4.2211	4.0969	98	3.8831	. 78	9.	. 586	. 483
	324	156	٦	85			4	Ε.	.240	.116
D (***	900	, [•			5,1600	0	.874	.729
~ 0	000	. 450 600	•		• •	6	ı w		5.4868	
10 C	.070	7000		900		. 62	.44	~	.079	.896
10	8.3934	8.1467	7.9088	7.6832	7.4688	•	.060	æ	.654	.451
	;	770	1			7.8749		.432	.209	.989
	1110	0.044	240	6179	8.7147	467	8.2277	7.9879	7.7470	7.5091
	700.0	120.6	0.40	•	•	•	•	.525	.266	.012
	1204-0	01.01	0.486			.597	•	.045	.770	.499
12	11.7728	11	11.0793	10.7509	•	•	•	.548	.256	.969
	9 6	410 01	1 662	1 206	476.0	9	10.3437	10.0351	9.7277	4.
9 ;	0000	17.014	700		1 494		8	0.506	0.183	Φ,
17	2.978	12.589	2.203 2 746	263	1,997		; ;	10.9617	10.6240	0
8 6	200.0	13 682	3 266	2.866	2.484	11.	1.7	1.402	1.050	
50 50	14.6453	14.2020	13.7695			571	-	1.828	1.462	1.1
	1 1 2	14 705	4	13.8247	3.411	13.0121	12.6240	2.2	1.861	.489
	7.00	15 191	4.7	4.28	85	13.4383	3.036	12.6397	12.2472	11.8626
	6.155	15.662	5.1	4.720	4.278	3.8	3.435	3.0	2.620	. 223
	6.626	16.118	5.6	5.147	4.690	7	13.8209	3.3	2.981	.572
25	17.0817	16	16.0497	. 559	5.089	4.6	4.194	3.7	3.330	. 909
02	1/1	18 555	7.980	ļ ,	16.8954	16.3817	.882	15.3921	14.9084	4.435
ט מ מ	000	20.22	613	σ	8.421	7.8	7.308	6.770	6.240	5.723
ر د د	260.0	27.64	0.991		9.709	9.1	8.512	7.934	7.365	6.811
4 4 7 7	3.612	22.87	2.1	21.4628	20.7968	20.1532	19.5286	18.9166	18,3156	17.7292
20	24.6635	23.890	137	ď	1.714	1.0	0.386	9.746	9.117	8.504

<1> Data Based on Assumed DOS of Apr 1993. Notes:

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Authorized Period of Use of Table is Oct 1992 through Sep 1993.
Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum of Agreement on Criteria/Standards for EA/LCC for MILCON Design.
Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes for Industrial Sector (NIST Annual Supplement to Handbook 135, Oct 1992).
Region 3: DE, MD, DC, VA, WV, NC, SC, GA, FL, KY, TN, AL, MS, AR, LA, OK, TX **^2**

Table E-3-DO-3. Present Worth Factors--Distillate Oil

Number				Be	Beneficial O	Occupancy D	Date			
or Payments	Oct 1993	Oct 1994	Oct 1995	Oct 1996	Oct 1997	Oct 1998	Oct 1999	Oct 2000	Oct 2001	Oct 2002
1	968	.955	.948	.94	.948	.949	.950	.946	.937	.924
8	.923	903	1.8970	1.8973	1.8982	1.8995	1.8965	1.8833	9	1.8318
· m	.872	.852	.845	.84	.848	.845	.833	.807	.768	. 722
4	.820	.800	.795	.79	.794	.782	.757	.715	.659	. 593
. R		•	.745	•	.731	. 706	.665	. 605	.530	. 444
9	718	700	.691	5.6801	.655	9	.555	.47	.381	.276
	699	646	628	.604	.563	'n	.426	.32	.213	.089
- α	615	583	552	511	.453	[.278	.15	.026	.881
0 0	552	507	.460	.402	.325	7	8.1100	7.9727	7.8188	7.6550
10			9.3507	9.2736	7	9.0594	.922	.76	.591	.411
	0.384	0.305	.222	10.1250	0.008	.872	.715	9.5383	9.3485	.151
	1.274	1.177	.073	0.95	0.821	0.664	0.488	0.294	0.088	.875
	2.145	2.028	905	1.76	1.613	1.4	•	11.0351	10.8127	10.5837
	2.997	2.860	.718	2.56	2.386	2.194	1.985	1.759	1.520	.275
15	13.8289	13.6731	13.5105	13.3351	14	34	2.709	2.467	2.212	1.951
	641	A 465	200	100	2 883	3 658	3 417	3 159	2,888	2.611
0 ;	T \$ 0 . \$			100	300			000	0740	710.0
17	5.434	5.238	040	4.831	4.00.4	4.300	4. TOY	0.00.0 A0A	0.040. A 101	# C G G C
87	6.207	5.495	780	0.000	CT0.0	0000	00/	0000	4.171	
10	16.9639	16.7355	15.5044	16.2538	16.00/3	15./34/	16.0880	15.7641	15.4276	15.0845
07	*0/-/	1 • 437	• 4.16			500				
	8.42	8.167	.904	7.632	17.3434	7.037	16.7142	6.373	6.021	5.662
	9.13	8.859	580	8.291	7.986	7.	7.324	9	6.59	16.2247
	9.82	9.535	.240	8.934	8.612	8.273	17.9179	7.545	.161	6.770
	0.50	0.195	.883	9.560	9.222	8.867	8.496	8.108	7.707	7.299
25	21.1641	20.8383	20.5094	20.1707	81	445	œ	8.653	8.236	7.812
30	4.215	3.808	3.399	2.979	6	2.0	1.623	21.1378	20.6412	0.139
2 2	6.861	6.373	5.883	5.384	4	4.3	3.800	3.243	2.677	2.109
0 A	9,112	8.550	7.989	7.421		6.2	5.643	5.026	4.401	3.776
45	1.017	0.393	9.771	9.145	œ.	7.8	7.202	26.5347	25.8611	25.1879
20	32.6303	31.9531	31.2801	30.6042	29.9195	29.2258	•	.811	7.096	6.382

Notes:

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum
of Agreement on Criteria/Standards for EA/LCC for MILCON Design.
Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes
for Industrial Sector (NIST Annual Supplement to Handbook 135, Oct 1992).
<3> Region 3: DE, MD, DC, VA, WV, NC, SC, GA, FL, KY, TN, AL, MS, AR, LA, OK, TX

Table E-3-RO-3. Present Worth Factors -- Residual Oil

Payments Oct 1993 Oct 1994 Oct 1999 Oct 2000 Oct 2001 Oct 2002 1 1.0028 1.0294 1.0510 1.0678 1.0044 1.1001 1.1141 1.1229 1.1239 1.1165 2 2.0322 2.0804 2.1288 2.1242 2.3459 2.3459 2.3295 2.2366 3 3.0832 4.1650 4.2188 2.1482 2.3606 2.4456 4.4218 4.4656 4.4431 4.3780 4 1.509 4.2228 4.3666 4.4218 4.4665 4.4565 4.4313 4.3780 6 6.3357 6.4470 6.5406 6.6125 6.613 6.6683 6.6239 6.5156 4.4371 1 1.0490 1.0500 7.7649 7.7864 7.7884 7.7884 7.7884 7.7884 7.7884 7.7865 4.4274 7.8899 7.7844 7.7880 6.613 6.613 6.613 6.613 6.613 6.613 6.623 6.4274 7.884	Number				Bei	Beneficial O	Occupancy D	Date			
1 1.0028 1.0294 1.0510 1.0240 1.0214 1.0214 1.021 1.1229 1.1230 2.2453 2.2346 2.2453 2.2346 3.3466	or Payments	199	199	٦		1		1 1			t I
2 2.0322 2.0324 2.0249 2.0249 2.0249 2.0249 2.0249 2.0249 2.0249 2.0249 2.0249 2.0249 2.0249 2.0249 2.0249 2.0249 2.0249 2.0249 2.0249 2.0249 2.0249 2.02448 2.0249 4.4665 4.4666 4.4661 4.4665 4.4665 4.4667 4.4665 4.4667 4.4667 4.4665 4.4667 4.4667 4.4665 4.4667 4.4667 4.4667 4.4665 4.4667 4.4667 4.4665 4.4667 4.4667 4.4665 4.4667 4.4667 4.4665 4.4667 4.4668 4.4667 4.4668 4.4667 4.4668 4.4669 4.4677 4.4669 4.4677 4.4669 4.4677 4.4677		.002	.029		•		•	Η.	.12	.123	•
4 1.0832 3.1,0834 3.1,0934 3.1,	7	.032	080.	•	•	٠	•	•	47.	. 239	•
4 4.1509 4.2238 4.3238 4.3076 5.44601 4.4601 4.4665 5.5468 5.5766 5.5468 5.5766 5.5468 5.5468 5.5468 5.5466 5.5468 5.5468 5.5468 5.5468 5.5468 5.5468 5.5468 5.5469 7.6498 7.7290 7.7654 7.7894 7.7380 7.6744 7.5805 7.6744 7.5805 7.6744 7.5805 7.6744 7.5805 7.6744 7.5805 7.7290 7.7654 7.7884 7.7380 7.6744 7.5805 7.7896 7.7896 7.7896 7.7896 7.7896 7.7896 7.7896 7.7896 7.7896 7.7896 7.7897 7.7440 7.7440 7.7440 7.7440 7.7440 7.7440 7.7440 7.7442	m	.083	. 148	•	•	٠	•	•	5	. 343	•
6. 1356 5.3256 5.4866 5.5466 5.5806 5.5542 5.5010 5 6. 1357 6.4470 6.5406 6.6125 6.6613 6.6808 6.6803 6.6239 6.5236 6.5515 6 7 7.4498 7.5699 7.630 7.7564 7.7684 7.7884 7.7380 7.6744 7.7890 7.7864 7.7884 7.7380 7.6743 6.5515 6 6.5515 6 6.5515 6 6.5515 6	4	.150	.232	•	•	₹.	•	•	.46	.431	•
6.3357 6.4470 6.5406 6.6125 6.6613 6.6808 6.6683 6.6239 6.5515 6 7.4498 7.5699 7.7659 7.7544 7.7644 7.7890 7.7540 7.7644 7.7807	ហ	.235	.332	•	•	r.	•	•	. 55	.501	•
7.4498 7.5699 7.6635 7.7290 7.7554 7.7880 7.6744 7.5897 7.6744 7.5897 7.6744 7.5897 7.6744 7.5897 7.5897 7.5897 7.5897 7.5897 7.5897 7.5897 7.5897 7.5897 7.5897 7.5897 7.5897 7.5897 7.5897 7.5897 7.5896 7.5897 7.5897 7.5896 7.5897 7.5896 7.5897 7.5897 7.5897 7.5497 7.5497 7.5797 7.5997 7.5996 7.5996 7.5997 7.5994 7.5994 7.5997 7.5997 7.5994 7.5994 7.5994 7.5994 7.5994 7.5994 7.5994 7.5994 7.5994 7.5994 7.5994 7.5994<	ø	.335	.447		9	9	6.6808	6.6683	6.6239	•	6.4577
8 55727 8.6929 8.7860 8.8332 8.6830 8.8381 8.7885 8.7036 8.5866 8 9 9.6927 9.9208 9.9228 9.9228 9.9228 9.9228 9.1778 10.6933 10.7773 10.6933 10.6936 10.6936 10.9733 10.6937 10.6939 10.6937 10.6938 10.6937 10.6937 10.6937 10.6937 10.6937 10.6937 10.6937 10.6937 10.6937 10.6937 10.6937 10.6937 10.6937	7	449	.569	•		•	7.7684	7.7380	7.6744	•	7.4657
9.6957 9.8842 9.9208 9.9228 9.8886 9.8177 9.7116 9.5764 9 10.8122 10.9135 10.9718 10.9733 10.9178 10.68257 10.6933 10.5437 10 11.9163 12.0012 12.0416 12.0025 11.9258 11.8134 11.6666 11.4904 11 13.0040 13.0702 13.0104 12.0025 11.9258 11.8134 11.6666 11.4904 11 4 13.0040 13.0702 13.0104 12.0025 11.9258 11.8134 11.6666 11.4904 11 4 14.0721 14.0702 13.0104 12.0025 11.9584 12.4453 13.214 13.5394 13.2465 13.2465 13.2465 13.2465 13.2465 13.324 13.2465 14.4453 14.2061 14.0655 14.8275 14.4453 14.2061 14.0655 14.8275 14.4453 14.2061 14.0655 14.8275 14.4453 14.2061 14.6278 14.4653 14.4453	- 00	572	692	•	ω,		8,8381	8.7885	8.7036	•	8.4534
10.8122 10.9135 10.9718 10.9733 10.9178 10.9178 10.9935 10.9733 10.9178 10.9178 10.9945 10.9935 10.9178 10.9178 10.9945 11.9163 11.9163 11.9164 11.9164 11.9163 11.9164 11.9164 11.9163 11.9164 <t< td=""><td>o</td><td>695</td><td>809</td><td>•</td><td>5</td><td></td><td>9.8886</td><td>9.8177</td><td>9.7116</td><td>•</td><td>9.4207</td></t<>	o	695	809	•	5		9.8886	9.8177	9.7116	•	9.4207
11.9163 12.0012 12.0415 12.0420 13.0026 11.9258 11.8134 11.6666 11.4904 11 13.0040 13.0709 13.0920 13.0102 13.0104 12.9135 12.7807 12.6133 12.4165 12.4166 12.4165 12.4166 </td <td></td> <td>0.812</td> <td>0.913</td> <td>•</td> <td>6.0</td> <td>o</td> <td>·</td> <td>0</td> <td>U</td> <td>ö</td> <td>0</td>		0.812	0.913	•	6.0	o	·	0	U	ö	0
2 13.0040 13.0709 13.0920 13.0104 12.9135 12.7807 12.6133 12.4165 12.4165 14.0737 14.0655 14.0655 14.6536 14.4453 14.4453 14.4453 14.4453 14.0740 14.0655 14.0740 15.0740 14.0655 16.0595 16.6595 16.4452 16.1969 15.0740 14.0655 16.0595 16.4452 16.1969 15.0740 14.0650 16.0740 17.0440 16.0740 16.0774 17.442 17.3410 17.0430 16.0740 16.0777 19.0867 18.0810 16.0740 16.0777 19.4958 19.2573 18.0828 18.2573 18.0828 18.2573 18.0828 18.2573 18.0828 18.2573 18.0828 18.2573 18.0828 18.2573 18.08		1.916	2.001	12	1 %	2.002		1.813	999.		7
3 14.0737 14.1214 14.1212 14.0782 13.9982 13.8808 13.7274 13.5394 13.3224 13 4 15.1242 15.1506 15.0659 14.9655 14.8875 14.6536 14.4533 14.2081 13 5 16.1534 16.1586 16.1169 16.0332 15.9121 15.7537 15.5594 15.3311 15.0740 14.651 6 17.1613 17.1463 17.0843 16.9799 16.8383 16.6595 16.4452 16.1969 15.0740 14.651 1 18.1391 18.0962 19.6977 19.4958 19.273 18.86730 15.9201 15.0740 17.7442		3.004	3.070	m.	m	3.0	6	2.780	.613	•	٦.
4 15.1242 15.1264 15.1264 15.1242 15.1264 15.1264 15.1242 15.1266 15.1292 15.0659 14.9655 14.8275 14.6536 14.4453 14.2081 13 16.1534 16.1586 16.1169 16.0332 15.9121 15.5594 15.3311 15.0740 14 7 18.1491 18.1136 18.0309 17.9061 17.7442 17.5453 17.3110 17.0430 16.7457 16 8 19.1164 19.0603 18.9571 18.8119 18.6299 18.4111 18.1572 17.8686 17.5501 17 9 20.0631 19.9865 19.8630 19.4958 19.2573 18.9288 18.730 16.7457 16 1 20.0631 19.9865 19.8630 19.4958 19.2573 18.9288 18.730 18.75501 17 1 20.0631 19.9865 19.8630 20.3419 20.0829 19.7871 19.4565 19.0966 18 2		4.073	4.121	4	4	3.9	m	3.727	.539	•	۰.
5 16.1534 16.1586 16.1169 16.0332 15.9121 15.7537 15.5594 15.3311 15.0740 14 6 17.1613 17.1463 17.0843 16.9799 16.8383 16.6595 16.4452 16.1969 15.9201 15 18.1491 18.1136 18.0309 17.9061 17.7442 17.5453 17.310 17.0430 16.7457 16 18.1491 18.1136 18.0309 17.9061 17.7442 17.5453 17.310 17.0430 16.7457 16 19.1164 19.0603 18.9571 18.8119 18.6299 18.4111 18.1572 17.0430 16.7457 17.810 17.0430 16.7457 16 17.810 17.0430 16.7457 16 17.810 17.0430 16.7457 16 16 17.810 17.0430 16.7457 16 17.810 17.0430 18.3336 17 17.810 17.0430 18.3336 19 17.810 17.810 17.810 17.811 18.8120 1		5.124	5.150	Ŋ,	'n	4.9	4	4.653	.445	•	σ.
6 17.1613 17.1463 17.0843 16.9799 16.8383 16.6595 16.4452 16.1969 15.9201 15 7 18.1491 18.1136 18.0309 17.9061 17.7442 17.5453 17.3110 17.0430 16.7457 16 8 18.1136 18.0309 17.9061 17.7442 17.5453 17.3110 17.0430 16.7457 16 9 20.0631 19.0865 19.8630 19.6977 19.4958 19.2573 18.9828 18.6730 18.3336 17.5501 17.8686 17.5501 17.8686 17.5501 17.8686 17.5501 17.8686 17.5501 17.8686 18.3336 19.0966 18 18.3336 19.0966 18 18.3336 19.0966 18 18.3336 19.0966 18 19.0966 18 19.0966 18 19.0966 18.3336 19.0966 18 18.336 19.0966 18.3136 19.09625 20.2195 19.0966 18.0000 19.0000 19.0000 19.0000		6.153	6.158	ė	ė.	5.9	ທ	5.559	.331	•	
7 18.1491 18.1136 18.0309 17.9061 17.7442 17.5453 17.3110 17.0430 16.7457 16 8 19.1164 19.0603 18.9571 18.8119 18.6299 18.4111 18.1572 17.8686 17.5501	16	7.161	7.146	<u> </u>		9		4			۳
8 19.1164 19.0603 18.9571 18.8119 18.6299 18.4111 18.1572 17.8686 17.5501 17 9 20.0631 19.9865 19.6977 19.4958 19.2573 18.9828 18.6730 18.3336 17 0 20.0631 19.9865 19.8630 19.6977 19.4958 19.2573 18.9828 18.6730 18.3336 17 1 20.0632 20.7877 20.3419 20.0829 19.7871 19.4565 19.0966 18 2 20.9822 20.7877 20.0829 19.7871 20.7871 19.4565 19.0966 18 2 22.2832 21.4097 21.1675 20.877 20.5706 20.2195 20.5630 20.5630 20.5630 20.5630 20.5640 20.21264 20.5640 20.21264 20.5640 21.2644 20.5640 21.2644 20.5640 21.2644 20.5640 21.2644 22.2861 22.42614 23.1768 22.8601 22.3641 21.3468 22.88150 <td>17</td> <td>8.149</td> <td>8.113</td> <td>œ.</td> <td>•</td> <td>Ŀ</td> <td>۲.</td> <td>۳.</td> <td>•</td> <td>•</td> <td>4.</td>	17	8.149	8.113	œ.	•	Ŀ	۲.	۳.	•	•	4.
9 20.0631 19.9865 19.8630 19.6977 19.4958 19.2573 18.9828 18.6730 18.336 17 0 20.9892 20.8923 20.7487 20.5635 20.3419 20.0829 19.7871 19.4565 19.0966 18 1 21.8951 21.7781 21.6145 21.4097 21.1675 20.8872 20.5706 20.2195 19.0966 18 2 22.7808 22.6439 22.4607 22.2353 21.1679 21.630 20.5630 20.5630 20.5630 20.5630 20.5630 20.5630 20.5630 20.5630 20.5630 20.5630 21.2664 20.5640 20.21264 20.5630 20.5630 21.2664 20.5640 20.21264 20.5640 20.5630 21.2664 20.5640 20.5640 20.5640 20.5640 20.5640 20.5640 20.5640 20.5640 20.5640 20.5640 20.5640 20.5640 20.5640 20.5640 20.5640 20.5640 20.5640 20.5640 20.5640 20.56	18	9.116	9.060	œ		æ	œ	٦.	•	•	7
20.9892 20.8923 20.7487 20.5635 20.3419 20.0829 19.7871 19.4565 19.0966 18 1 21.8951 21.7781 21.6145 21.4097 21.1675 20.8872 20.5706 20.2195 19.8396 19 2 22.7808 22.6439 22.4607 22.2353 21.9719 21.6707 21.336 20.9625 20.5630 20 2 22.7808 22.6439 22.4607 22.2353 21.9719 21.6707 21.336 20.9625 20.5630 20 3 24.4928 24.3157 24.0906 23.8231 23.5184 23.1768 22.8001 22.3893 21.9494 21.9494 21.9494 21.9494 21.9494	19	0.063	9.986	ď	6	6	e.	σ,	.67	•	σ.
1 21.8951 21.7781 21.6145 21.4097 21.1675 20.8872 20.5706 20.2195 19.8396 19 2 22.7808 22.6439 22.4607 22.2353 21.9719 21.6707 21.3336 20.9625 20.5630 20 3 22.7808 22.4901 23.2863 23.0396 22.7553 22.4338 22.0767 21.6860 21.2664 20 4 24.4928 24.901 23.2863 23.0396 22.7553 22.438 22.0767 21.6860 21.2664 20 5 24.928 24.8741 24.5862 24.2614 23.1768 22.8001 22.3893 21.9493 21.9493 22.5614 23.9002 23.5034 23.0722 22.6116 22.3164 23.0722 22.6116 22.28001 22.3616 20.5664 20.5664 20.5664 20.5616 20.5664 20.5664 20.5664 20.5664 20.5664 20.5664 20.5664 20.5664 20.5664 20.5664 20.5664 20.5664 <td< td=""><td>20</td><td>0.989</td><td>0.892</td><td>0.7</td><td>ö</td><td>ö</td><td>Ö</td><td></td><td>.45</td><td>6</td><td>8.7</td></td<>	20	0.989	0.892	0.7	ö	ö	Ö		.45	6	8.7
2 2 7 8 2 6 4 2 2 6 6 5 6 6 5 6 6 5 6 5 3 6 6 5 3 3 6 6 5 3 6 3 6 2 7 1 6 2 6 2 7 3 6 2 7 1 6 2 3 6 2 7 1 6 2 3 6 2 7 1 2 6 2 3 1 9 9 2 1 1 2 1 2 3 1 3 1 3		1.895	1.778	1.614	1.40	.167	0.887	٠	.219	9.8	6
3 23.6467 23.4901 23.2863 23.0396 22.7553 22.4338 22.0767 21.6860 21.2664 20 4 24.4928 24.3157 24.0906 23.8231 23.5184 23.1768 22.8001 22.3893 21.9493 21 5 25.3184 25.1200 24.8741 24.2614 23.9002 23.5034 23.0722 22.6116 22 0 29.1357 28.8363 28.4899 28.1011 27.6747 27.2112 26.7126 26.1802 25.6200 25 5 32.4468 32.0455 31.5979 31.1095 30.5860 30.0277 29.4368 28.8150 28.1684 27 5 35.2633 34.7697 34.2327 33.6580 33.0508 32.4117 31.7426 31.0452 30.3255 29 5 37.6473 37.0755 36.4629 35.1372 34.4296 33.6943 32.9329 32.1512 31.512 31.5067 32.3463 34.5308 33.6967 33.6967		2.780	2.643	6	2.23	.971	~	ä	.962	'n	
4 24.4928 24.3157 24.0906 23.8231 23.5184 23.1768 22.8001 22.3893 21.9493 21 5 25.3184 25.1184 23.1768 23.5034 23.0722 22.6116 22 0 29.1357 28.8363 28.4899 28.1011 27.6747 27.2112 26.7126 26.1802 25.6200 25 5 32.4468 32.0455 31.5979 31.1095 30.5860 30.0277 29.4368 28.8150 28.1684 27 5 35.2633 34.7697 34.2327 33.6580 33.0508 32.4117 31.7426 31.0452 30.3255 29 5 37.6473 37.0755 36.4629 35.1372 34.4296 33.6943 32.9329 32.1512 31 6 39.6652 39.0272 38.3506 37.6408 36.9031 36.1376 35.3463 34.5308 33.6967 35		3.646	3.490	m,	3.03	.755	N	ö	.686	.266	
5 25.3184 25.1200 24.8741 24.5862 24.2614 23.9002 23.5034 23.0722 22.6116 22 0 29.1357 28.8363 28.4899 28.1011 27.6747 27.2112 26.7126 26.1802 25.6200 25 5 32.4468 32.0455 31.5979 31.1095 30.5860 30.0277 29.4368 28.8150 28.1684 27 5 35.2633 34.7697 34.2327 33.6580 33.0508 32.4117 31.7426 31.0452 30.3255 29 5 37.6473 37.0755 36.4629 35.1372 34.4296 33.6943 32.9329 32.1512 31 6 39.6652 39.0272 38.3506 37.6408 36.9031 36.1376 35.3463 34.5308 33.6967 32		4.492	4.315	4	3.82	.518	ന	ö	.389	.949	ä
0 29.1357 28.8363 28.4899 28.1011 27.6747 27.2112 26.7126 26.1802 25.6200 26.300 26.33 5 32.4468 32.0455 31.5979 31.1095 30.5860 30.0277 29.4368 28.8150 28.1684 27.817 0 35.2633 34.7697 34.2327 33.6580 33.0508 32.4117 31.7426 31.0452 30.3255 29.35 5 37.6473 37.0755 36.4629 35.8150 35.1372 34.4296 33.6943 32.9329 32.1512 31 0 39.6652 39.0272 38.3506 37.6408 36.9031 36.1376 35.3463 34.5308 33.6967 32.9329		5.318	5.120	4.	4.58	.261	3	÷.	.072	.611	7
5 32.4468 32.0455 31.5979 31.1095 30.5860 30.0277 29.4368 28.8150 28.1684 27 0 35.2633 34.7697 34.2327 33.6580 33.0508 32.4117 31.7426 31.0452 30.3255 29 5 37.6473 37.0755 36.4629 35.1372 34.4296 33.6943 32.9329 32.1512 31 0 39.6652 39.0272 38.3506 37.6408 36.9031 36.1376 35.3463 34.5308 33.6967 32.9329	30	9.135	8.836	8.4	اه	9	7.21		ı o	25.6200	25.0412
0 35.2633 34.7697 34.2327 33.6580 33.0508 32.4117 31.7426 31.0452 30.3255 29 5 37.6473 37.0755 36.4629 35.8150 35.1372 34.4296 33.6943 32.9329 32.1512 31 0 39.6652 39.0272 38.3506 37.6408 36.9031 36.1376 35.3463 34.5308 33.6967 32	35	2.446	2.045	1.5	ä		0.02	7.	œ	28.1684	27.5061
5 37.6473 37.0755 36.4629 35.8150 35.1372 34.4296 33.6943 32.9329 32.1512 31 0 39.6652 39.0272 38.3506 37.6408 36.9031 36.1376 35.3463 34.5308 33.6967 32	40	5.263	4.769	4.2	'n		N	۲.	_	30,3255	29.5924
0 39.6652 39.0272 38.3506 37.6408 36.9031 36.1376 35.3463 34.5308 33.6967 32	45	7.647	7.075	6.4	'n		4	Ψ.	C	32.1512	31,3583
	20	9.665	9.027	8.3	Ε.		6.13	m	T	33.6967	32.8530

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum
of Agreement on Criteria/Standards for EA/LCC for MILCON Design.
Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes
for Industrial Sector (NIST Annual Supplement to Handbook 135, Oct 1992).
<3> Region 3: DE, MD, DC, VA, WV, NC, SC, GA, FL, KY, TN, AL, MS, AR, LA, OK, TX

ENERGY STUDIES: REGION 3

Table E-3-NG-3. Present Worth Factors--Natural Gas

Payments Oct 1993 Oct 1994 Oct 1994 Oct 2000 Oct 2000 Oct 2000 Oct 2000 Oct 2001 Oct 2002 1,9905 1,9644 1,9662 1,9650 4,1867 4,1873	Number				Be	Beneficial O	Occupancy D	Date			
1 0.9946 0.9859 0.9785 0.9682 0.9889 0.9837 1.0069 1.0255 1.0456 1.0464 1.9444 1.9446	of Payments	199	199	ct 199	19	199	199	19	~	i	- 1
2 19605 1.5644 1.9467 1.9376 1.9926 2.0750 2.0760 2.1069 2.1069 2.1069 2.1079 2.1281 2.1201 2.1281 4.1281	-	16	ا د	.97	٠,	.968	.983	.006	.02	.042	.058
2 2 3 4 2 3 4 2 3 4 2 3 4 2 3 4 2 3	10	. 0	. 5	94	٠,	.952	.990	.032	90.	.100	.123
4 19015 3.8993 3.9377 3.9950 4.0387 4.1330 4.1318 4.2649 4.2649 5 4.8961 4.9962 4.9963 3.9377 3.9950 4.0387 4.1338 4.2649 5.2629 5.2629 5.2629 5.2629 5.308 6.3708 6.3708 6.3708 6.338 6.4507 6.3178 6.4907 6.3728 6.2356 7.3398 7.4302 7	4 ~	ָס		.91	ຸດ	.959	.016	.075	.12	.166	.194
5 4,996 4,996 4,996 6,187 5,186 5,2629 6,307 5,128 6 6,896 6,897 6,085 6,182 6,269 6,332 6,397 7,396 6,387 6,086 6,397 7,391 7,396 7,396 6,387 6,086 6,397 6,269 6,182 6,269 6,322 7,396 8,492 8,397 7,490 8,397 7,396 8,492 8,397 9,283 9,287 9,467 9,183 9,467 9,583 1,492 8,492 8,387 9,467 9,583 1,492 8,183 1,457 1,457 1,4464 1,0,583 1,456 1,4464 1,658 1,648 1,648 1,658 1,648 1,658 1,648 1,658 1,648<	9 4	ָס	. 5	8	σ.	.985	.058	.133	.19	.237	.264
6.8867 6.9176 6.9942 7.0538 7.1513 7.2536 7.398 7.3963 7.3963 7.3963 7.3630 7.4500 7 7.9617 6.9176 6.9176 6.9176 6.9176 6.9176 7.938 7.1513 7.2536 7.398 7.3963 7.3402 7.4502 8 9.947 9.0182 9.1907 9.2223 9.3870 9.4627 9.5181 9.5637 9.583 1 10.0128 10.0839 10.1662 10.2266 10.2558 10.4464 10.5251 10.5893 10.6261 10.6261 1 11.0785 11.1560 11.15452 11.5988 13.5093 10.6261 10.6261 10.6261 1 11.0785 11.1560 11.3452 12.5984 13.469 13.4493 13.5498 13.5498 13.661 10.6261 10.6261 10.6261 10.6261 10.6261 10.6261 10.6261 10.6261 10.6261 10.6261 10.6261 10.6261 10.6261 10.6261 <t< td=""><td>ינה</td><td></td><td>ω.</td><td>.90</td><td>ο.</td><td>.027</td><td>.116</td><td>.198</td><td>.26</td><td>.307</td><td>.328</td></t<>	ינה		ω.	.90	ο.	.027	.116	.198	.26	.307	.328
6.8867 6.9176 6.9742 7.0538 7.1113 7.2536 7.3998 7.3963 7.4502 7.4502 8.9547 9.0102 9.1074 7.0538 7.1113 7.2536 7.3998 7.4502 8.4537 8.4537 8.4926 8.5218 9.2823 8.1033 8.1076 9.2225 8.2325 9.3870 9.4647 9.5181 9.5637	9	979		931	995	.085	.182	.269	.332	.3	.387
8.9547 9.0182 8.1395 8.2225 8.2253 8.457 8.4557 8.4926 8.521 9.8947 9.0182 9.0980 9.1907 9.2923 9.3870 9.4627 9.5181 9.5637 9.5837) r	. מ מ	•	476	053	151	.253	.339	.396	4.	.450
8,9547 9,0182 9,0980 9,1907 9,2923 9,3870 9,4627 9,5181 9,5637 9,583 10,0128 10,0128 10,0839 10,1692 10,2666 10,3558 10,4464 10,5251 10,5893 10,6221 10,6221 1,0,0128 11,1550 11,2390 11,3240 11,4459 12,6866 12,686 12,689 11,687 11,6659 11,6669 1,2,195 13,2864 13,3619 13,548 11,596 14,706 15,689 12,689 11,687 11,667 11,667 11,667 11,667 11,667 11,667 11,667 11,667 11,667 11,667 11,667 11,667 11,667 11,667 11,667 11,667 11,67 1	~ a	912	•	032	119	. 222	323	.403	.455	4.	.521
11.0785 10.0128 10.0639 10.1692 10.2606 10.3558 10.4464 10.5251 10.5893 10.6261 10.623 11.0785 11.1550 11.2390 11.3240 11.4152 11.5088 11.5962 11.6517 11.6659 11.640 12.1497 12.2249 12.3025 12.3834 12.4776 12.5799 12.6586 12.6914 12.6831 12.635 13.2195 13.2844 13.4519 13.45170 14.6120 15.6993 15.7105 14.7156 13.7086 13.6780 13.608 14.2210 15.4102 15.4955 15.5794 15.6509 15.6993 15.7105 15.6763 15.6018 15.4956 16.4048 16.4814 16.5579 16.6191 16.6681 16.6842 16.6813 16.6273 16.5311 16.395 18.5384 18.5835 18.6318 18.6313 18.6359 18.6418 18.4634 18.3213 18.1399 19.5781 19.6007 19.6077 19.6041 19.5550 17.6470 17.6342 17.5566 17.4379 17.278 19.5384 18.5835 18.6313 18.6339 18.6179 18.4634 19.3213 18.1399 20.5953 20.5956 20.5826 20.5550 20.5161 20.4540 20.3538 20.2073 20.0199 19.793 21.5902 21.5684 21.5335 21.4844 21.4229 21.3375 21.2143 21.0454 22.6560 22.4030 22.110 22.5631 25.2389 25.1135 24.9313 24.433 22.6884 22.6560 22.4030 22.1130 23.5140 23.4452 23.2496 23.2475 24.433 25.2859 23.4884 23.4855 23.4985 23.4884 23.5826 23.4465 23.4455 23.8845 23.4455 23.8845 23.8845 23.8845 23.8845 23.8845 23.8845 23.1396 24.4433 24.433 25.2859 24.4433 25.2859 25.2459 23.4445 23.4455 23.8445 23.4455 23.4445 23.4455 23.8252 24.5579 24.4433 24.4433 24.4453	o a	446.	•	098	190	292	.387	.462	.518	.5	.583
11.0785 11.1550 11.2390 11.3340 11.4152 11.5088 11.5962 11.6517 11.6659 11.6659 11.6659 11.6659 11.6659 11.6659 11.6659 11.6659 11.6659 11.6659 11.6659 11.6650 11.6650 11.6650 11.6661 12.679 12.6598 12.6598 13.7086 13.6780 14.5590 14.5170 14.7180 15.6763 15.6763 15.6763 15.618 15.4880 14.5370 15.6690 16.6942 16.6933 16.6573 16.6510 16.6681 16.6942 16.6432 16.6473 16.6570 17.6530 17.6542 17.6542 17.6543 17.6540		0.012		0.169	0.260	0.355	0.446	0.525	0.589	9.0	0.623
12.1497 12.2249 12.3249 12.3249 12.3249 12.5249 12.5249 12.6586 12.6984 12.631 12.635 13.2195 13.2284 13.3619 13.4459 13.5488 13.6423 13.66983 13.7086 13.6780 13.608 13.2195 13.2884 13.3619 13.5488 13.5488 13.6693 15.7105 16.608 14.5170 16.697 14.5170 15.6763 15.6763 15.6763 15.6763 15.6018 15.6018 15.6018 15.6018 15.6018 15.6608 15.6993 15.7105 15.6763 15.6018 15.6018 16.6191 16.6681 16.6942 16.6633 16.617	11	1.078] [1.239	1.324	1.415	1.508	1.596	1.651	1.665	1.640
3 13.2195 13.2884 13.3619 13.4459 13.5488 13.6423 13.6983 13.7086 13.6780 13.608 4 14.2830 14.3478 14.4243 14.5170 14.6112 14.6820 14.7156 14.7035 14.6508 14.5599 1 1.53424 15.4102 15.5794 15.6509 15.6993 15.7105 15.6763 16.6191 16.681 16.6942 16.6833 16.6273 16.511 16.511 16.539 1 17.4760 17.5438 17.576 17.6363 16.681 16.6942 16.6833 16.5171 16.531 16.539 1 17.4760 17.5438 17.576 17.6363 17.6630 17.6670 17.6342 17.576 17.738 1 19.586 19.5473 19.4703 19.3464 19.1818 18.934 19.3468 19.1818 18.937 1 20.595 20.556 20.5161 20.4540 20.3538 20.2073 20.0199 19.793	12	2.149		2.302	2.383	2.477	2.579	2.658	2.691	2.683	2.635
4 14.2830 14.4243 14.4243 14.5170 14.6820 14.7156 14.7035 14.6508 14.559 5 15.3424 15.4102 15.5794 15.6509 15.6933 15.7105 15.6763 15.6018 15.588 6 16.4048 16.4814 16.5579 16.6191 16.6681 16.6942 16.6833 16.6273 16.5311 16.395 7 17.4760 17.5438 17.6363 17.6670 17.6342 17.5566 17.4379 17.278 8 18.5344 18.5835 18.6179 18.5363 18.5364 19.3468 19.1379 17.5566 17.4379 17.278 1 18.5344 18.6148 18.6313 19.64703 19.3468 19.1318 19.793 2 20.5560 20.5560 20.5161 20.4540 20.3538 20.2073 20.0199 19.793 2 20.5564 20.5560 20.5161 20.4540 20.3538 20.2073 20.0199 19.793 2	7 -	3.219	3.2	3.361	3.445	3.548	3.642	3.698	3.708	3.678	3.608
5 15.3424 15.4102 15.5794 15.6509 15.693 15.7105 15.6763 15.6108 15.488 6 16.4048 16.4814 16.5579 16.6191 16.6681 16.6942 16.6833 16.6273 16.5311 16.357 7 17.4760 17.5436 17.6630 17.6670 17.6342 17.5566 17.4379 17.278 8 18.5384 18.6138 18.6179 18.5636 18.4634 18.3213 18.139 9 19.5781 19.6097 19.6041 19.5868 19.5473 19.4703 19.3468 19.138 18.9373 1 20.5953 20.5826 20.5550 20.5161 20.4540 20.3538 20.2073 20.0199 19.793 2 20.5953 20.5826 20.5550 20.5161 20.4540 20.3538 20.2073 20.0199 19.793 2 20.5954 20.5826 20.5168 21.3475 21.844 21.4229 21.3375 21.2143 21.0454 <	7 7	4.283	4.3	4.424	4.517	4.611	4.682	4.715	4.703	4.650	4.559
6 16.4048 16.4814 16.5579 16.6191 16.6681 16.6942 16.6833 16.6273 16.5311 16.331 1 17.4760 17.5438 17.5976 17.6363 17.6630 17.6472 17.6342 17.5566 17.4379 17.278 1 17.4760 17.5438 17.6363 17.6630 17.6670 17.6342 17.5566 17.4379 17.278 9 19.5781 19.6007 19.6097 19.6041 19.5868 19.5473 19.4703 19.4368 19.188 20.5953 20.5956 20.5826 20.5161 20.4540 20.3538 20.2073 20.0199 19.793 20.5953 21.564 21.5356 22.3163 21.4443 21.484 21.4229 21.314 22.0573 20.0199 19.793 22.5631 22.514 22.4628 22.3164 21.4229 21.3146 22.4639 22.1468 22.0523 21.8615 21.6305 22.6430 22.6439 22.6439 22.4433 24.433	15	5.342	5.4	5.495	5.579	5.650	5.699	5.710	5.676	5.601	5.488
17.4760 17.548 17.5976 17.6363 17.6670 17.6342 17.5566 17.4379 17.278 18.5384 18.5836 18.6179 18.5636 18.4634 18.3213 18.139 19.5781 19.6007 19.6097 19.6041 19.5868 19.5473 19.4703 19.3468 19.1818 18.139 20.5953 20.5956 20.5520 20.5161 20.4540 20.3538 20.2073 20.0199 19.793 2 20.5953 20.5826 20.5550 20.5161 20.4540 20.3538 20.2073 20.0199 19.793 2 20.5953 20.5826 20.5550 20.5161 20.4540 20.2073 20.0199 19.793 2 20.5631 22.631 22.3063 22.13376 22.3168 22.0523 21.6454 20.2073 20.0199 19.793 3 24.487 23.3696 23.2745 23.1668 23.0360 22.6569 23.4285 23.1530 22.4030 22.4030 22.4030 <t< td=""><td>16</td><td>707</td><td>481</td><td>7.7.</td><td>6.619</td><td>6.668</td><td>6.694</td><td>6.683</td><td>6.627</td><td>6.531</td><td>6.395</td></t<>	16	707	481	7.7.	6.619	6.668	6.694	6.683	6.627	6.531	6.395
1 1	9 5	777	101		7.636	7.663	7.667	7.634	7.556	7.437	7.278
19.5781 19.6007 19.6097 19.6041 19.5868 19.5473 19.4703 19.3468 19.1818 18.977 20.5953 20.5956 20.5550 20.5161 20.4540 20.3538 20.2073 20.0199 19.793 20.5953 20.5956 20.5550 20.5161 20.4540 20.3538 20.2073 20.0199 19.793 22.5631 22.5194 22.4628 22.3011 22.3063 22.1980 22.0523 21.0454 20.6359 20.1360 22.5631 22.5194 22.4628 22.3063 22.1980 22.0523 21.6456 22.4030 22.1136 4 24.4431 24.4877 23.3696 23.21468 23.1668 22.6629 22.6560 22.4030 22.1136 5 25.3501 25.2389 24.1351 24.04049 23.6629 23.4285 23.1530 22.1363 22.1136 5 25.3501 25.2389 25.1135 24.9210 24.6466 24.4354 24.1785 23.8804 23.673 <td>18</td> <td>0 4 . A</td> <td>18.0</td> <td>8.61</td> <td>8.631</td> <td>8.635</td> <td>8.617</td> <td>8.563</td> <td>8.463</td> <td>8.321</td> <td>8.139</td>	18	0 4 . A	18.0	8.61	8.631	8.635	8.617	8.563	8.463	8.321	8.139
2 20.5953 20.5956 20.5826 20.5550 20.5161 20.4540 20.3538 20.2073 20.0199 19.793 1 21.5902 21.5684 21.535 21.4844 21.4229 21.3375 21.2143 21.0454 20.8359 20.588 2 25.5631 22.5194 22.4628 22.3911 22.3063 22.1980 22.0523 21.8615 21.6305 21.360 3 23.5140 23.4487 23.3696 23.2745 23.1668 23.0360 22.8684 22.6560 22.4030 22.1136 4 24.4433 24.355 24.2530 24.1351 24.6466 24.4436 23.4289 23.1350 22.8874 5 25.3501 25.2389 25.1135 24.9731 24.6466 24.4435 24.1785 23.8804 23.5804 23.58804 23.58804 23.58804 23.58804 23.58804 23.58804 23.58804 23.58804 23.58804 23.58804 23.58804 23.58804 23.58804 23.58804 23.58	9 5	9.78 9.78	600	9.60	9.604	9.586	9.547	9.470	9.346	9.181	8.977
2 21.5902 21.5684 21.5335 21.4844 21.4229 21.3375 21.2143 21.0454 20.8359 20.5888 2 22.5631 22.5194 22.4628 22.311 22.1980 22.0523 21.8615 21.6305 21.360 3 23.5140 23.4487 23.3696 23.2745 23.1668 23.0360 22.8684 22.6560 22.4030 22.110 4 24.4433 24.2530 24.1351 24.0049 23.8521 23.6629 23.4285 23.1530 22.130 5 25.3501 25.2389 24.1351 24.6466 24.4354 24.1785 23.1804 23.542 5 25.3501 25.2389 25.1359 24.6466 24.4354 24.1785 23.8804 23.542 5 25.3501 25.2389 28.8336 28.5698 28.2832 27.9601 27.5921 27.1845 25.4466 5 32.4985 32.358 32.3526 31.7673 31.3766 30.9520 30.4859	50	0.595	0.595	0.58	0.555	0.516	0.454	0.353	0.207	0.019	9.793
2 2 5 3 2 3	21	1.590	.568	1.533	1.484	1.422	1.337	1.214	1.045	0.835	0.588
23.5140 23.4487 23.3696 23.2745 23.1668 23.0360 22.8684 22.6560 22.4030 22.110 4 24.4433 24.3555 24.2530 24.1351 24.0049 23.8521 23.6629 23.4285 23.1530 22.837 5 25.3501 25.2389 24.1351 24.6466 24.4354 24.1785 23.1804 23.542 0 29.5427 29.3206 29.0848 28.8336 28.5698 28.2832 27.9601 27.5921 27.1845 26.739 5 33.1792 32.4983 32.1378 31.7673 31.3766 30.9520 30.4859 29.9835 29.446 36.2726 35.3872 35.3921 34.9367 34.4745 33.9949 33.4845 32.9354 32.3526 31.738 5 38.8910 38.3697 37.3649 36.7659 36.2112 35.6281 35.0086 34.3579 35.319 6 41.1073 40.5133 39.9149 39.3111 38.7054 38.0871<	22	2.563	519	2.462	2.3	2.306	2.198	2.052	1.861	1.630	1.360
4 24.443 24.355 24.2530 24.1351 24.0049 23.8521 23.6629 23.4285 23.1530 22.837 5 25.3501 25.2389 25.1135 24.9731 24.8210 24.6466 24.4354 24.1785 23.8804 23.542 0 29.5427 29.3206 29.0848 28.8336 28.5698 28.2832 27.9601 27.5921 27.1845 26.739 5 33.1792 32.8452 32.4983 32.1378 31.7673 31.3766 30.9520 30.4859 29.9835 29.446 36.2726 35.3921 34.9367 34.4745 33.9949 33.4845 32.9354 32.3526 31.738 5 38.8910 38.3697 37.3059 36.7659 36.2112 35.6281 35.0086 34.3579 33.677 41.1073 40.5133 39.9149 39.3111 38.7054 38.0871 37.4425 36.7635 36.0552 35.319	2 6	3.514	448	3.369	3.2	3.166	3.036	2.868	2.656	2.403	2.110
25.3501 25.2389 25.1135 24.9731 24.8210 24.6466 24.4354 24.1785 23.8804 23.542 29.5427 29.3206 29.0848 28.8336 28.5698 28.2832 27.9601 27.5921 27.1845 26.739 5 33.1792 32.8452 32.4983 32.1378 31.7673 31.3766 30.9520 30.4859 29.9835 29.446 6 35.372 35.3921 34.9367 34.4745 33.9949 33.4845 32.9354 32.3526 31.738 5 38.8910 38.3697 37.3059 36.7659 36.2112 35.6281 35.0086 34.3579 33.677 6 41.1073 40.5133 39.9149 39.3111 38.7054 38.0871 37.4425 36.7635 36.0552 35.319	2.0	4.443	355	4.253	4.1	4.004	3.852	3.662	3.428	3.153	2.837
0 29.5427 29.3206 29.0848 28.8336 28.5698 28.2832 27.9601 27.5921 27.1845 26.739 5 33.1792 32.8452 32.4983 32.1378 31.7673 31.3766 30.9520 30.4859 29.9835 29.9835 29.446 0 36.2726 35.3372 35.3921 34.9367 34.4745 33.9949 33.4845 32.9354 32.3526 31.738 5 38.8910 38.3697 37.3059 36.7659 36.2112 35.6281 35.0086 34.3579 33.677 0 41.1073 40.5133 39.9149 39.3111 38.7054 38.0871 37.4425 36.7635 35.319	25	5.350	.238	5.113	4.9	4.821	4.646	4.435	4.178	3.880	3.542
33.1792 32.8452 32.4983 32.1378 31.7673 31.3766 30.9520 30.4859 29.9835 29.446 36.2726 35.8372 35.3921 34.9367 34.4745 33.9949 33.4845 32.9354 32.3526 31.738 5 38.8910 38.3697 37.8416 37.3059 36.7659 36.2112 35.6281 35.0086 34.3579 33.677 5 41.1073 40.5133 39.9149 39.3111 38.7054 38.0871 37.4425 36.7635 36.0552 35.319	30	9 542	9.320	9.084	8.8	8.569	8.283	.960	7.592	7.184	6.739
36.2726 35.8372 35.3921 34.9367 34.4745 33.9949 33.4845 32.9354 32.3526 31.738 36.2726 35.8372 35.3921 34.9367 34.4745 33.9949 33.4845 32.9354 32.3526 31.738 38.8910 38.3697 37.8416 37.3059 36.7112 35.6281 35.0086 34.3579 33.677 0 41.1073 40.5133 39.9149 39.3111 38.7054 38.0871 37.4425 36.7635 36.0552 35.319	ט ר בי	10000	220.0	2 498		1.767	1.376	.952	0.485	9.983	9.446
5 38.8910 38.3697 37.8416 37.3059 36.7659 36.2112 35.6281 35.0086 34.3579 33.677 0 41.1073 40.5133 39.9149 39.3111 38.7054 38.0871 37.4425 36.7635 36.0552 35.319	ر د د	5.17	5.837	5.392	1 4	4.474	3.994	484	2.935	2.352	1.738
0 41.1073 40.5133 39.9149 39.3111 38.7054 38.0871 37.4425 36.7635 36.0552 35.319	45	891	8.369	7.841	7.3	6.765	6.211	.628	5.008	4.357	3.677
	205	1.107	0.513	9.914	9.3	8.705	8.087	.442	6.763	6.055	5.319

<1> Data Based on Assumed DOS of Apr 1993. Notes:

Authorized Period of Use of Table is Oct 1992 through Sep 1993.

Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum of Agreement on Criteria/Standards for EA/LCC for MILCON Design.

Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes for Industrial Sector (NIST Annual Supplement to Handbook 135, Oct 1992).

Region 3: DE, MD, DC, VA, WV, NC, SC, GA, FL, KY, IN, AL, MS, AR, LA, OK, TX **^5**

²³

Table E-3-SC-3. Present Worth Factors -- Steam Coal

nts Oct 1993 Oct 1994 Oct 1995 Oct 1999 Oct 1999 Oct 2000 Oct 2001 Oct 2002 Oct 1999 Oct 1999 Oct 2002 Oct 1999 Oct 2002 Oct 1999 Oct 2002	Number				Be	Beneficial O	Occupancy D	Date			
0.9781 0.9591 0.9400 0.9211 0.9022 0.8857 0.8734 0.8588 0.8358 0.8438 2.662 2.6439 4.7869 4.7869 4.4411 4.3558 4.2670 4.7864 4.7869 </th <th>OI Payments</th> <th>199</th> <th>199</th> <th>19</th> <th>-</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>Oct 2002</th>	OI Payments	199	199	19	-						Oct 2002
1,9371 1,8891 1,6812 1,8823 1,7891 1,7591 1,6946 1,6946 1,6946 1,6946 1,6946 1,6946 1,6946 1,6946 2,5680 2,5680 2,5680 2,5680 2,5880 2,5880 3,1024 3,5824 3,5200 3,4537 3,3814 4,0893 4,0893 4,0019 3,2305 3,2305 5,6862 5,6480 4,48607 4,7569 4,6681 4,18607 4,7569 4,6681 4,7869 4,7869 4,7869 4,7869 4,7869 4,7869 4,7869 4,7869 4,7869 4,7869 4,7869 6,2260 6,226	-	.978	.959			6.					•
2.8772 2.7874 2.7090 2.6612 2.618 2.5680 2.5080 2.4462 2 3.7983 3.7984 4.5224 4.4411 4.3558 4.2670 4.1784 4.0093 2.4462 3 4.7005 4.6924 4.4411 4.3558 4.2670 4.1784 4.0093 5.062 5.8483 5.7341 5.6157 5.4972 5 6.4596 6.3402 6.2070 5.9662 5.8483 5.6157 4.7569 4 7.1383 7.1862 7.2294 7.2294 7.6460 7 6.4990 6.4990 7.2294 7.6760 6.993 7.9662 5.8433 5.6157 5.4972 6 6.9920 6.1970	7	.937	.899	•	•	•	•	•	•	•	.610
3.7983 3.7224 3.6490 3.5524 3.5200 3.4537 3.3814 3.3050 3.2305 3.3814 4.0093 4.0019 3 4.7005 6.4696 6.4896 6.4896 6.2104 4.0867 4.0809 4.0019 3 6.4596 6.3402 6.1812 6.7505 6.6197 6.4891 6.3260 6.2260 6 7.3183 7.1761 7.0304 6.8973 6.7505 6.6197 6.4891 6.3260 6.2260 6 8.1542 7.1883 7.1274 7.0847 7.0847 6.7506 6.197 6.4990 6.2260 6 8.1542 7.1883 7.1814 7.0847 7.0847 6.4891 6.7506 6.197 6.4891 6.9429 6 6.2260 6 10.5468 10.3422 10.3841 9.7460 9.5607 9.181 7.0847 4.7649 9.7691 9.1910 9.1910 9.1910 9.1910 9.1910 9.1910 9.1910 9.1910	ო	.877	.820	•	•	•	•	•	•	•	.394
5.5862 5.4815 5.2312 5.1692 5.0640 4.9627 4.8607 4.7569 4.0019 3 6.5862 5.4816 5.2470 5.1692 5.0640 4.9627 4.8607 4.7569 4 4.7569 4 4.7569 4 4.7569 4 4.7569 4 4.7569 4 4.9627 4.8607 4.7569 4 4 <t< th=""><th>4</th><th>.798</th><th>.722</th><th>•</th><th>•</th><th>•</th><th>•</th><th>•</th><th>•</th><th>•</th><th>.16</th></t<>	4	.798	.722	•	•	•	•	•	•	•	.16
5.5862 5.4815 5.3812 5.2770 5.1692 5.0640 4.9627 4.8607 4.7569 4 6.4596 6.3496 6.993 5.9662 5.8483 5.04972 5.9662 5.8483 5.9662 5.8483 5.7497 5.4972 5 5.2260 6.3560 6.2560 7.6460 7.6460 7.6460 7.6460 7.6460 7.6460 7.6460 7.6460 7.6460 7.6460 7.6460 7.6460 7.6460 7.6460 7.6460 7.6460 7.6460 7.660 7.6460 7.6460 7.6460 7.6460 7.6460 7.660 7.660 7.660 7.660 7.660 7.660 7.660	ហ	. 700	. 608	•	•	•	•	•	•	•	.921
6,4596 6,3402 6,1170 6,0903 5,9662 5,8483 5,7341 5,6157 5,4972 5 8,1364 7,2318 7,1318 7,1761 7,6716 7,5219 7,3748 7,2294 6,2560 6 8,1542 7,8895 8,6117 8,4430 8,2770 8,1151 7,9581 7,0847 6,2260 6 10,5488 10,3422 10,181 9,1984 9,0173 8,8438 8,6750 8,5048 8,3322 8 11,2672 11,0972 10,8784 10,6671 10,4689 10,0564 9,8607 9,6559 10,0019 8 11,2615 12,0422 10,5809 11,1660 10,9500 10,7341 10,2935 10 9,6559 10 9,6679 10,001	9	.586				. 169		6.	, -		4.6614
7.3183 7.1761 7.0304 6.8873 6.7505 6.6197 6.4991 6.3560 6.2260 6 8.1542 7.1765 7.2848 7.2294 7.0847 6.9429 6 8.1542 7.7865 8.6117 8.4430 8.1151 7.8016 7.6460 6 9.7645 9.5708 9.3831 9.1981 9.0173 8.8438 8.6750 8.5048 8.3322 8 10.5488 10.3422 10.8742 10.671 10.4629 10.2638 10.0644 9.8607 9.0159 9.0555 9 11.3202 11.0972 10.8744 10.6671 10.4629 10.2638 10.0644 9.8607 9.6155 9 12.8156 12.2340 11.0874 11.1660 10.9500 10.7341 10.9163 10.9644 9.8607 9.6555 9 13.6156 12.2340 12.0874 11.8522 11.1166 10.0444 9.8667 9.6555 9 14.2612 13.2862 12.2134 <th>7</th> <td>459</td> <td>•</td> <td></td> <td>•</td> <td>•</td> <td>•</td> <td></td> <td>•</td> <td>•</td> <td>5.3901</td>	7	459	•		•	•	•		•	•	5.3901
8.1542 7.9895 7.8274 7.6716 7.5219 7.3748 7.2294 7.0847 6.9429 6 8.5675 8.1865 8.6117 8.4430 8.2770 8.1151 7.9581 7.0847 6.9429 6 9.7645 9.5708 9.3831 9.1981 9.0173 8.8438 8.6750 8.5048 8.3322 8 10.5488 10.3422 10.1381 9.1981 9.0173 8.8438 8.6750 8.5048 8.3322 8 11.3072 11.0972 10.3422 10.6071 11.1660 10.9500 10.7341 10.2935 10.9160 12.0156 12.3240 12.0871 11.8522 11.6197 11.3877 11.1522 10.9160 10.9506 14.2612 13.7340 12.0871 11.8522 11.6197 11.3877 11.1522 10.9160 11.5367 14.2612 14.9436 13.1756 12.2734 12.0256 11.748 11.5236 12.3662 12.340 12.0871 13.833	- αο	.318	•	•	•	•	•	4	•	•	6.1070
8.9675 8.7865 8.6117 8.4430 8.2770 8.1151 7.9581 7.8016 7.6460 7 9.7645 9.5708 9.3831 9.1981 9.0173 8.8438 8.6750 8.5048 8.3322 8 10.5488 10.3422 10.1381 9.9384 9.7460 9.5607 9.3781 9.1910 9.0019 8 10.5488 10.0322 10.10871 11.3840 11.6521 10.0644 9.6667 9.6657 10.04629 10.2638 10.06144 9.6657 9.6559 12.0016 10.0019 10.2935 10.0016 10.2935 10.2935 10.2936 10.2638 10.2935 10.2935 10.2935 10.2935 10.2935 10.2935 10.2935 10.2935 10.2935 10.2935 11.552 10.9160 10.9160 10.9160 10.9160 10.9160 10.918 10.2935 10.9164 9.6657 10.6644 9.6657 10.6644 9.6657 10.664 9.6657 10.664 9.6657 10.664 9.6657	0	.154	•	•	•	•	•	7	•	•	6.8102
9.7645 9.5708 9.3831 9.1981 9.0173 8.8438 8.6750 8.5048 8.3322 8.8 10.5488 10.3422 10.1381 9.9384 9.7460 9.5607 9.3781 9.1910 9.0019 8.8 11.302 11.0971 11.1660 10.5638 10.0544 9.1910 9.0019 8.8 12.0753 11.8072 11.6071 11.1652 10.5638 10.0544 9.1010 9.0019 8.8 12.0754 12.0562 11.6071 11.1652 10.9500 10.7341 10.5143 10.2951 10.0544 9.1010 9.0019 8.8 13.5443 13.2862 13.7134 13.436 13.1756 12.2134 11.522 10.9160 11.6 <	10	.967	•	•	•	•	•	σ.	•	•	7.4964
10.548 10.3422 10.1381 9.9384 9.7460 9.5607 9.3781 9.1910 9.0019 8.8 10.3202 11.0972 10.8784 10.4629 10.25638 10.0644 9.8607 9.6555 9.4 11.3202 11.0972 11.3840 11.3840 11.18607 11.3840 11.1852 10.2935 10.02935 11.28156 12.5662 12.3240 12.0871 11.8522 11.6197 11.3877 11.1522 10.9160 10.6671 10.6671 11.8842 13.02831 13.0272 13.7134 13.4430 13.1756 12.9113 12.6482 12.3824 12.1166 11.8 14.5612 13.9862 13.7134 13.4430 13.1756 12.9113 12.6482 12.9754 12.6954 12.4 12.6505 15.3422 15.0367 14.7346 14.4360 14.1414 13.8488 13.5541 13.26954 12.9 12.9 12.9 12.9 12.9 12.9 12.9 13.8115 13.8 13.	11	.764	.570		7	.017	8	.675	8.5048		.166
11.3202 11.0972 10.8784 10.6671 10.4629 10.2638 10.0644 9.8607 9.6555 9.4 12.0753 11.8375 11.6071 11.3840 11.1660 10.9500 10.7341 10.5143 10.2935 10.0 12.0753 11.6071 11.3840 11.1660 11.3877 11.1522 10.9160 10.6 13.5443 13.1756 12.2734 12.0256 11.7748 11.5236 11.0 14.2612 13.9862 13.7134 14.0967 13.1756 12.913 12.6482 12.3874 11.5236 11.7748 11.5236 11.2 15.9943 14.7360 14.1414 13.8488 13.5541 13.26954 12.9 12.9 16.9730 16.2972 15.9648 15.6366 15.3132 14.4275 14.1190 13.8115 13.5 16.9730 16.6337 16.2972 15.9648 15.6366 15.3132 14.9274 14.4365 14.1944 14.4275 14.1990 13.8115 13.815	12	0.548	0.342	ö	ο.		ĸ	.378	9.1910	•	.819
12.0753 11.8375 11.6071 11.3840 11.1660 10.9500 10.7341 10.5143 10.2935 10.0 12.8156 12.5240 12.0871 11.1652 11.6197 11.3877 11.1522 10.9160 10.0 13.5443 13.0272 12.7733 12.5219 12.2734 12.0256 11.7748 11.5236 11.0 14.2612 13.9862 13.7134 13.4430 13.1756 12.9133 12.6482 12.3824 12.1166 11.0 15.663 15.362 15.7436 14.7346 14.7346 14.7346 14.7346 12.0584 12.6954 12.498 12.6954 12.6974 12.6964 12.6964 12.6964 12.6964 12.6964 12.6964 12.6964 12.6964 12.6964 12.6964 12.6964 12.6964 12.6964 12.6964 12.6964 13.8064 14.7427 14.1190 13.8115 13.5 14.0 12.6064 12.6964 12.6964 12.6964 12.6964 14.6702 14.8075 14.0	13	1.320	1.097	ö	9	0.4	~	0.064	9.8607	•	.457
12.8156 12.5662 12.3240 12.0871 11.697 11.3877 11.1522 10.9160 10.6 13.5443 13.0272 12.7733 12.5219 12.2734 12.0256 11.7748 11.5236 11.8 14.2612 13.9862 13.7134 13.4430 13.1756 12.9113 12.6482 12.3824 12.1166 11.8 14.2612 14.3831 14.0967 13.8135 13.558 12.9754 12.1665 12.9 15.6505 15.3422 15.0367 14.7346 14.444 13.8488 13.5541 13.6954 12.9 16.3702 15.9648 15.6366 15.3132 14.4275 14.1190 13.8115 13.5 16.9739 16.62972 15.9648 15.6366 15.3132 14.9924 14.6702 14.395 14.0 17.6118 17.2563 16.9048 16.514 15.8780 15.8780 15.836 15.3082 14.0 18.2343 17.8659 17.7013 17.315 16.4293 1	14	2.075	1.837	ij	۳.	1.1	σ.	0.734	0	ö	0.08
13.5443 13.2831 13.0272 12.7733 12.5219 12.2734 12.0256 11.7748 11.5236 11.8 14.2612 13.9862 13.7134 13.4430 13.1756 12.9113 12.6482 12.3824 12.1166 11.84.643 12.0513 12.6482 12.3824 12.1166 11.84.643 13.1756 12.9133 13.2558 12.9754 12.6954 12.046 12.0436 14.1414 13.8488 13.5502 12.956 12.954 12.6954 12.956 12.9754 14.7346 14.4275 14.1190 13.8115 13.5602 12.956 15.9648 15.6366 15.3132 14.9924 14.6702 14.3495 14.5	15	2.815	2.566	ς.	0	1.8	•	1.387	-	·	0.687
14.2612 13.9862 13.7134 13.4430 13.1756 12.9113 12.6482 12.3824 12.1166 11.8 14.9643 14.6725 14.3831 14.0967 13.8135 13.538 13.2558 12.9754 12.6954 12.4 15.6505 15.3422 15.0367 14.7346 14.4360 14.1414 13.8488 13.5541 13.2602 12.9 16.3702 15.0468 15.3571 15.0436 15.3132 14.4275 14.1190 13.8115 13.5 16.9739 16.6374 15.9648 15.6366 15.3132 14.4275 14.1190 13.8115 13.5 17.6118 17.2563 16.9048 16.2154 15.8780 15.5436 15.2082 14.8745 14.5 18.2419 18.4569 18.0765 17.7013 17.3315 16.0816 15.7333 15.3870 15.0 19.4349 19.0356 18.6414 18.2526 17.4924 17.1191 16.7459 16.7459 16.7459 16.0	16	3.544	3.2	3.027	2.7	2.52	2.2	2.025	_		1.280
14.9643 14.6725 14.3831 14.0967 13.8135 13.5338 13.2558 12.9754 12.6954 12.48 15.6505 15.342 15.0367 14.7346 14.4360 14.1414 13.8488 13.5541 13.2602 12.9754 16.3202 15.9958 15.6746 15.3571 15.0436 14.1414 13.8488 13.5541 13.2602 12.9754 16.9739 16.6337 16.2972 15.9648 15.6366 15.3132 14.9924 14.6702 14.3495 14.0 17.6118 17.2563 16.9048 16.2154 15.8780 15.5436 15.2082 14.8745 14.5 18.2343 17.4978 17.1365 16.7802 16.4293 16.0816 15.7333 15.3870 15.0 18.8419 18.6414 18.2526 17.8695 17.4924 17.1191 16.7459 16.7459 16.7459 16.7459 16.7459 16.3752 16.0 22.1929 21.7272 21.2683 22.0864 22.5871 22.09	17	4.261	3.9	m	3.4	3.17	2.9	2.648	~	4	1.859
15.6505 15.3422 15.0367 14.7346 14.4360 14.1414 13.8488 13.5541 13.2602 12.9 16.3202 15.9958 15.6746 15.3571 15.0436 14.7344 14.4275 14.1190 13.8115 13.5 16.3202 15.9958 15.6746 15.3648 15.636 15.3132 14.9924 14.6702 14.3495 14.0 16.2134 17.2563 16.9048 16.5578 16.2154 15.8780 15.5436 15.2082 14.3495 14.5 18.2343 17.8639 17.4924 17.1191 16.7459 16.0816 15.333 15.8775 15.9 19.4349 19.0356 18.6414 18.2526 17.8695 17.4924 17.1191 16.7459 16.3752 16.0 22.1929 21.7272 21.2683 20.8164 20.3716 19.9343 19.5024 19.0719 18.6453 18.2 24.6348 24.1105 23.5943 25.0965 24.5489 24.0112 22.9551 22.9551	18	4.964	4.6	4	4.0	3.81	3.5	3.255	~	CA	2.42
16.3202 15.6958 15.6746 15.3571 15.0436 14.7344 14.4275 14.1190 13.8115 13.5 16.9739 16.6337 16.2972 15.9648 15.6366 15.3132 14.9924 14.6702 14.3495 14.0 17.6118 17.2563 16.9048 16.5578 16.2154 15.8780 15.5436 15.2082 14.8745 14.5 18.2343 17.8639 17.4978 17.1365 16.7802 16.4293 16.0816 15.7333 15.3870 15.0 18.8419 18.4569 18.0765 17.7013 17.3315 16.9673 16.0816 15.3870 15.3 19.4349 19.0356 18.6414 18.2526 17.8695 17.4924 17.1191 16.7459 16.3752 16.0 22.1929 21.7272 21.2683 22.0864 22.5871 22.0966 21.6127 21.1314 20.6554 20.1 26.7971 26.2208 25.6538 25.0965 24.5135 22.1357 22.9551 22.4351 <th>19</th> <td>5.650</td> <td>5.3</td> <td>'n</td> <td>4.7</td> <td>4.43</td> <td>4.1</td> <td>3.848</td> <td>(1)</td> <td>"</td> <td>2.975</td>	19	5.650	5.3	'n	4.7	4.43	4.1	3.848	(1)	"	2.975
16.9739 16.6337 16.2972 15.9648 15.6366 15.3132 14.9924 14.6702 14.3495 14.5 17.6118 17.2563 16.9048 16.5578 16.2154 15.8780 15.5436 15.2082 14.8745 14.5 18.2343 17.8639 17.1365 16.7802 16.4293 16.0816 15.7333 15.3870 15.0 18.8419 18.4569 18.0765 17.7013 17.3315 16.9673 16.0816 15.7333 15.3870 15.0 19.4349 19.0356 18.6414 18.2526 17.8695 17.4924 17.1191 16.7459 16.3752 16.0 22.1929 21.7272 21.2683 20.8164 20.3716 19.9343 19.5024 19.0719 18.6453 18.2 24.6348 24.1105 23.5943 25.0965 24.5489 24.0112 23.4813 22.9551 22.4351 21.3 28.7117 28.0893 27.4775 26.2859 27.2075 26.6007 25.9995 25.4064 <th>50</th> <td>6.320</td> <td>5.9</td> <td>'n</td> <td>5.3</td> <td>5.04</td> <td>4.7</td> <td>4.427</td> <td>4</td> <td>(7)</td> <td>3.513</td>	50	6.320	5.9	'n	5.3	5.04	4.7	4.427	4	(7)	3.513
17.6118 17.2563 16.9048 16.5578 16.2154 15.8780 15.5436 15.2082 14.8745 14.5 18.2343 17.8639 17.4978 17.1365 16.7802 16.4293 16.0816 15.7333 15.3870 15.0 18.8419 18.4569 18.0765 17.7013 17.3315 16.9673 16.0667 16.2458 15.8871 15.5 19.4349 19.0356 18.6414 18.2526 17.8695 17.4924 17.1191 16.7459 16.3752 16.0 22.1929 21.7272 21.2683 20.8164 20.3716 19.9343 19.5024 19.0719 18.6453 18.2 24.6348 24.1105 23.5943 23.0864 22.5871 22.0966 21.6127 21.1314 20.6554 20.1 26.7971 28.0893 27.4775 26.8763 26.2859 25.7064 25.1357 24.5698 24.0111 23.481 28.7117 28.0893 27.4775 28.28452 27.2075 26.6007 25.9995<	21	6.973	6.633	ဖ်	5.96	.636	5.3	4.992	4.670	۳,	.038
18.2343 17.8639 17.4978 17.1365 16.7802 16.4293 16.0816 15.7333 15.3870 15.0 18.8419 18.4569 18.0765 17.7013 17.3315 16.9673 16.6067 16.2458 15.8871 15.5 19.4349 19.0356 18.6414 18.2526 17.8695 17.4924 17.1191 16.7459 16.3752 16.0 22.1929 21.7272 21.2683 20.8164 20.3716 19.9343 19.5024 19.0719 18.6453 18.2 24.6348 24.1105 23.5943 23.0864 22.5871 22.0966 21.6127 21.1314 20.6554 20.1 26.7971 26.2208 25.6538 25.0965 24.5489 24.0112 23.4813 22.9551 22.4351 21.9 28.7117 28.0893 27.4775 26.2859 27.2075 26.6007 25.9995 25.4064 24.8	22	7.611	7.256	ė.	.557	6.2	5.8	5.543	5.208	æ	4.551
18.8419 18.4569 18.0765 17.7013 17.3315 16.9673 16.6067 16.2458 15.8871 15.5 19.4349 19.0356 18.6414 18.2526 17.8695 17.4924 17.1191 16.7459 16.3752 16.0 22.1929 21.7272 21.2683 20.8164 20.3716 19.9343 19.5024 19.0719 18.6453 18.2 24.6348 24.61105 23.5943 23.0864 22.5871 22.0966 21.6127 21.1314 20.6554 20.1 26.7971 26.2208 25.6538 25.0965 24.5489 24.0112 23.4813 22.9551 22.4351 21.9 28.7117 28.0893 27.4775 26.8763 26.2859 25.7064 25.1357 24.5698 24.0111 23.4 30.4069 29.7438 29.0922 28.4522 27.2075 26.6007 25.9995 25.4064 24.8	23	8.234	7.863	۲.	.136	6.7	6.4	6.081	5.733	۳.	5.051
19.4349 19.0356 18.6414 18.2526 17.8695 17.4924 17.1191 16.7459 16.3752 16.0 22.1929 21.7272 21.2683 20.8164 20.3716 19.9343 19.5024 19.0719 18.6453 18.2 24.6348 24.6348 22.5871 22.0966 21.6127 21.1314 20.6554 20.1 26.7971 26.2208 25.6538 25.0965 24.5489 24.0112 23.4813 22.9551 22.4351 21.9 28.7117 28.0893 27.4775 26.8763 26.2859 25.7064 25.1357 24.5698 24.0111 23.4 30.4069 29.7438 29.0922 28.4522 27.2075 26.6007 25.9995 25.4064 24.8	24	8.841	8.456	œ	.701	7.3	6.9	6.606	6.245	æ	5.53
22.1929 21.7272 21.2683 20.8164 20.3716 19.9343 19.5024 19.0719 18.6453 18.2 24.6348 24.1105 23.5943 23.0864 22.5871 22.0966 21.6127 21.1314 20.6554 20.1 26.7971 26.2208 25.6538 25.0965 24.5489 24.0112 23.4813 22.9551 22.4351 21.9 28.7117 28.0893 27.4775 26.8763 26.2859 25.7064 25.1357 24.5698 24.0111 23.4 30.4069 29.7438 29.0922 28.4522 27.2075 26.6007 25.9995 25.4064 24.8	25	9.434	9.035	œ	.252	7.8	7.4	7.119	6.745	.3	6.015
24.6348 24.1105 23.5943 23.0864 22.5871 22.0966 21.6127 21.1314 20.6554 20.1 26.7971 26.2208 25.6538 25.0965 24.5489 24.0112 23.4813 22.9551 22.4351 21.9 28.7117 28.0893 27.4775 26.8763 26.2859 25.7064 25.1357 24.5698 24.0111 23.4 30.4069 29.7438 29.0922 28.4522 27.8239 27.2075 26.6007 25.9995 25.4064 24.8	30	2.192	.727	1.2	.81	6	6	9.502	.071		8.2
26.7971 26.2208 25.6538 25.0965 24.5489 24.0112 23.4813 22.9551 22.4351 21.9 28.7117 28.0893 27.4775 26.8763 26.2859 25.7064 25.1357 24.5698 24.0111 23.4 30.4069 29.7438 29.0922 28.4522 27.8239 27.2075 26.6007 25.9995 25.4064 24.8	35	4.634	.110	3.5	•	ď	~	1.612	.131		0.1
28.7117 28.0893 27.4775 26.8763 26.2859 25.7064 25.1357 24.5698 24.0111 23.4 30.4069 29.7438 29.0922 28.4522 27.8239 27.2075 26.6007 25.9995 25.4064 24.8	40	6.797	.220	5.6	•	4	4	3.481	.955		1.9
30.4069 29.7438 29.0922 28.4522 27.8239 27.2075 26.6007 25.9995 25.4064 24.8	45	8.711	.089	7.4	•	6.285	ນ	5.135	. 569		3.4
	20	0.406	.743	9.0	•	7.823	_	6.600	.999		4 .8

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum of Agreement on Criteria/Standards for EA/LCC for MILCON Design.
Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes for Industrial Sector (NIST Annual Supplement to Handbook 135, Oct 1992).
<3> Region 3: DE, MD, DC, VA, WV, NC, SC, GA, FL, KY, TN, AL, MS, AR, LA, OK, TX

ENERGY STUDIES: REGION 3

Table E-3-LP-3. Present Worth Factors--Liquified Petroleum Gas (LPG)

	Oct 2002	0.8151	.611	.388	.144	.880	.597	.295	5.9743	.636	. 284	o.	.537	.144	9.7366	.315	0.8	1.4	11.9674	2.4	2.9	3.4	3.9	14.4419	4.8	5.3	~	o.	Ö	21.6496	~
	Oct 2001	.832	4	.443	.220	.977	.713	.430	6.1281	.806	.468	.116	.750	.370	9.9765	. 569	1.148	1.713	12.2636	2.799	3.322	.830	4.325	14.8069	5.274	5.727	.7	9.5	1.0	22.2561	3.3
	Oct 2000	0.8486	•	2.4962	•	•		•	6.2790	•	•	8.3173	•	•	10.2189	ö		ä	12.5618	ω,	3.	4.1	14.6791	ņ.	9	6.1	8.24	0.05	1.57	22.8712	3.96
Date	Oct 1999	•	1.7103	s.	۳,		.930	.687	6.4236	.140	.838	.516	.178	.826	4.0	.080	1.686	2.279	12.8584	3.423	3.973	4.51	5.03	15.5407	6.03	6.51	l oo	0	~~	23.4914	24.6220
Occupancy Da	Oct 1998	.871	1.7335	.582	.414	.229	.026	.802	6.5591	.295	.012	8.7102	•	ö	10.6987	_	1.952	2.558	13.1512	3.730	4.295	14.8457	5.381	15.9041	6.412	6.907	9.173	1,101	2.732	4	282
Beneficial O	Oct 1997	.882	1.7548	.616	•	297	.112	.908	6.6855	.442	.178	8.8954	. 593	0.271	10.9337	1.581	2.215	2.835	3.4	4.034	.613	5.17	5.72	6.2	6.78	29	9.63	1.62	3,31	4.73	25.9470
Be	Oct 1996	۳.		9	'n	4.3593		•	6.8031	•	8.3362	9.0726	. 78	0.48	4	82	2.475	3.109	m	4.335	.928	15.5074	6.0	6.6	7.1	17.6812	0.086	2.145	3.889	5.365	26.6154
	Oct 1995		•	•	•	4.4171	.265	.098	.913	. 709	8.4862	.242	.979	0.696	1.3	072	2.734	3,382	4.016	4.636		5.834	6.413	6.978	7.529	18,0655	20.5400		9		27.2883
	Oct 1994	.929	.835	.730	.612		.346	195	027	.842	8.6389	.415	0.172	0.908	1.625	12.3231	3.001	2 663	4.311	4.945	15.5654	6.171	6.764	7.343	7.908	18.4587	1.002	301	5,062	6.640	27.9762
	Oct 1993	.962	.891	.798	692	4.5755	.447	309	157	990	8.8052	.601	0.378	1,134	1.87	588	1 285	2 064	4.62	5.274	908	6.527	7.134	7.726	8.305		1.483	2749	5.47 5.47 5.48	7.308	28.6891
Number	of Payments	1	8	m	4	ינטי	٠		- α	ο σ	10					15	16	7 6	1 6	9 5	20					25	30) c	n C	4.5	200

Notes: <1> Data Based on Assumed DOS of Apr 1993.

Authorized Period of Use of Table is Oct 1992 through Sep 1993.

Authorized Period of Use of Table is Oct 1992 through Sep 1993.
Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum of Agreement on Criteria/Standards for EA/LCC for MILCON Design.
Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes for Residential Sector (NIST Annual Supplement to Handbook 135, Oct 1992).
<3> Region 3: DE, MD, DC, VA, WV, NC, SC, GA, FL, KY, TN, AL, MS, AR, LA, OK, TX

Table E-3-EL-4. Present Worth Factors--Electricity

1 8 2 4 9 6 4 8 18 8 9 18 18 18 18							
0.9640 0.9270 0.89 1.8910 1.8209 1.75 2.7849 2.6848 2.59 3.6489 3.5238 3.41 4.4878 4.3421 4.21 5.3061 5.1391 4.98 6.1031 5.9157 5.74 6.8797 6.6720 6.47 7.6360 7.4065 7.19 8.3705 8.1184 7.88 9.0825 8.8077 8.54 9.7717 9.4742 9.19 10.4382 10.1178 9.81 11.0818 10.7406 10.41 11.7046 11.3439 11.00 12.3080 11.9279 11.56 13.4569 13.5684 13.15 14.5324 14.0800 13.64 15.0440 14.5750 14.12 15.324 14.0800 13.64 16.0180 15.5174 15.03 16.9297 16.3993 15.89	19	Oct 1997	Oct 1998	Oct 1999	Oct 2000	Oct 2001	Oct 2002
1.8910 1.8209 1.75 2.7849 2.6848 2.59 3.6489 3.5238 3.41 4.4878 4.3421 4.21 6.8797 6.6720 6.47 7.6360 7.4065 7.19 8.3705 8.1184 7.88 9.0825 8.8077 8.54 9.7717 9.4742 9.19 10.4382 10.1178 9.81 11.0818 10.7406 10.41 11.7046 11.3439 11.00 12.3080 11.9279 11.56 12.8919 12.4929 12.11 13.4569 13.0395 12.61 14.5324 14.0800 13.64 16.0180 15.5174 15.03 16.9297 16.3993 15.89	.89	0.8389	0.8183	-	0.7766	0.7563	_ ლ •
2.7849 2.6848 2.59 3.6489 3.5238 3.41 4.4878 4.3421 4.21 6.8797 6.6720 6.47 6.8797 6.6720 6.47 7.6360 7.4065 7.19 10.4382 10.1178 9.19 10.4382 10.1178 9.81 11.0818 10.7406 10.41 11.7046 11.3439 11.00 12.8919 12.4929 12.11 13.4569 13.0355 12.11 14.5324 14.0800 13.64 16.0180 15.5174 15.03 16.4814 15.0540 14.59 16.9297 16.3993 15.89	.7579 1.	.657	.615	ů.	.532	•	1240
3.6489 3.5238 3.41 4.4878 4.3421 4.21 6.1031 5.9157 5.74 6.8797 6.6025 7.19 8.3705 8.1184 7.88 9.0825 8.8077 8.54 9.7717 9.4742 9.19 10.4382 10.1178 9.81 11.0818 10.7406 10.41 12.8919 12.4929 12.11 13.4569 13.0395 12.64 14.5324 14.0800 13.64 15.5391 15.0540 14.59 16.0180 15.5174 15.03 16.4814 15.957 15.47 18.9606 18.3637 17.79	.5968 2.	454	165.	. 329	197.	•	. L35
5.3061 5.1391 4.28 6.1031 6.6720 6.47 7.6360 7.4065 7.188 8.3705 8.1184 7.88 9.0825 8.8077 8.54 9.7717 9.4742 9.19 10.4382 10.1178 9.81 11.0818 10.7406 10.41 11.7046 11.3439 11.56 12.3080 11.9279 11.56 14.0036 13.5684 13.15 14.5324 14.0800 13.64 15.5391 15.0540 14.59 16.0180 15.5174 15.03 16.9297 16.3993 15.89	.4151 3.	.230	.148	.064	979	•	805
5.3061 5.1391 4.98 6.1031 5.9157 5.74 6.8797 6.6720 6.47 7.6360 7.4065 7.19 8.3705 8.1184 7.88 9.0825 8.8077 8.54 9.7717 9.4742 9.19 10.4382 10.1178 9.81 11.0818 10.7406 10.41 11.7046 11.3439 11.00 12.3080 11.9279 11.56 14.036 13.5684 13.15 14.5324 14.0800 13.64 15.5391 15.0540 14.59 16.0180 15.5174 15.03 16.4814 15.957 15.47 16.9297 16.3993 15.89	.2121 4.	.987	.882	.776	. 668	•	.445
6.1031 5.9157 5.74 6.8797 6.6720 6.47 7.6360 7.4065 7.19 8.3705 8.1184 7.88 9.0825 8.8077 8.54 9.0825 9.4742 9.19 10.4382 10.1178 9.81 11.0818 10.7406 10.41 11.7046 11.3439 11.00 12.8919 12.4929 12.11 13.4569 13.0395 12.64 14.5324 14.0800 13.64 15.5391 15.0540 14.59 16.0180 15.5174 15.03 16.9297 16.3993 15.89	.9887 4.8		.5	.465	•	4.2021	.068
6.8797 6.6720 6.47 7.6360 7.4065 7.19 8.3705 8.1184 7.88 9.0825 8.8077 8.54 9.7717 9.4742 9.19 10.4382 10.1178 9.81 11.0818 10.7406 10.41 12.3080 11.9279 11.56 12.8919 12.4929 12.11 13.4569 13.0395 12.61 14.0036 13.5684 13.15 14.5324 14.0800 13.64 15.5391 15.0540 14.59 16.0180 15.5174 15.03 16.9297 16.3993 15.89 20.6790 20.0253 19.75	.7450 5.5	•	7	.132	•	•	.672
7.6360 7.4065 7.19 8.3705 8.1184 7.88 9.0825 8.8077 8.54 9.7717 9.4742 9.19 10.4382 10.1178 9.81 11.0818 10.7406 10.41 11.7046 11.3439 11.00 12.8919 12.4929 12.11 13.4569 13.0395 12.61 14.5324 14.0800 13.64 15.5391 15.0540 14.59 16.0180 15.5174 15.03 16.4814 15.9557 15.47 16.9297 16.3993 15.89	.4795 6.	6.1228	5.9504	5.7757	5.6015	5.4283	5.2559
8.3705 8.1184 7.88 9.0825 8.8077 8.54 9.7717 9.4742 9.19 10.4382 10.1178 9.81 11.0818 10.7406 10.41 11.7046 11.3439 11.00 12.3080 11.9279 11.56 12.8919 12.4929 12.11 13.4569 13.0395 12.61 14.5324 14.0800 13.64 15.5391 15.0540 14.59 16.0180 15.5174 15.03 16.4814 15.9557 15.47 16.9297 16.3993 15.89	.1915 6.9	•	ທ	.398	•	•	.820
9.0825 8.8077 8.54 9.7717 9.4742 9.19 10.4382 10.1178 9.81 11.0818 10.7406 10.41 11.7046 11.3439 11.00 12.3080 11.9279 11.56 13.4569 13.0395 12.64 14.0036 13.5684 13.15 14.5324 14.0800 13.64 15.5391 15.0540 14.59 16.9297 16.3993 15.89 20.6790 20.0253 19.75	.8807 7.6	•	7	.001	•	•	.367
10.4382 10.1178 9.81 11.0818 10.7406 10.41 11.7046 11.3439 11.00 12.3080 11.9279 11.56 13.4569 13.0395 12.64 14.0036 13.5684 13.15 14.5324 14.0800 13.64 15.324 14.550 14.12 15.5391 15.0540 14.59 16.0180 15.5174 15.03 16.9297 16.3993 15.89 20.6790 20.0253 19.75	5472 8.296	8.0557	7.8202	7.5858		ゼ	6.8964
10.4382 10.1178 9.81 11.0818 10.7406 10.41 11.7046 11.3439 11.00 12.3080 11.9279 11.56 13.4569 13.0395 12.14 14.0036 13.5684 13.15 14.5324 14.0800 13.64 15.5391 15.0540 14.59 16.0180 15.5174 15.03 16.4814 15.957 15.47 16.9297 16.3993 15.89	1908 8.5	.65	8.4041	7	7.9005	7.6527	.408
11.0818 10.7406 10.41 11.7046 11.3439 11.00 12.3080 11.9279 11.56 13.4569 13.0395 12.11 14.0036 13.5684 13.15 14.5324 14.0800 13.64 15.0440 14.5750 14.12 15.5391 15.0540 14.59 16.0180 15.5174 15.03 16.9297 16.3993 15.89 20.6790 20.0253 19.35	.8136 9.523	9.2430	8.9691	8.6974	•	٦.	7.9031
11.7046 11.3439 11.00 12.3080 11.9279 11.56 12.8919 12.4929 12.11 13.4569 13.0395 12.64 14.5036 13.5684 13.15 15.0440 14.5750 14.12 15.0440 14.5750 14.12 16.0180 15.5174 15.03 16.9297 16.3993 15.89 20.6790 20.0253 19.39	0.4170 10.107	.80	•	4	•	9.	.382
12.3080 11.9279 11.56 12.8919 12.4929 12.11 13.4569 13.0395 12.61 14.0036 13.5684 13.15 14.5324 14.0800 13.64 15.5391 15.0540 14.59 16.0180 15.5174 15.03 16.4814 15.957 15.47 16.9297 16.3993 15.89 20.6790 20.0253 19.35	1.0009 10.672	.354	•		•	ተ.	.845
12.8919 12.4929 12.11 13.4569 13.0395 12.64 14.0036 13.5684 13.15 14.5324 14.0800 13.64 15.640 14.5750 14.12 15.5391 15.0540 14.59 16.9297 15.957 15.89 16.9297 16.3993 15.89 20.6790 20.0253 19.39	1.5660 11.21	0.88	5	10.2329	.914	•	.293
13.4569 13.0395 12.64 14.0036 13.5684 13.15 14.5324 14.0800 13.64 15.0440 14.5750 14.12 15.5391 15.0540 14.59 16.9297 15.9657 15.89 16.9297 16.3993 15.89 20.6790 20.0253 19.75	2.1126 11.74	1.39	0	0.711	0.378	•	9.727
14.0036 13.5684 13.15 14.5324 14.0800 13.64 15.0440 14.5750 14.12 15.5391 15.0540 14.59 16.9297 15.9657 15.89 16.9297 16.3993 15.89 20.6790 20.0253 19.75	6	9	11.5302	11.1753	10.8266	10.4837	10.1468
14.5324 14.0800 13.64 15.0440 14.5750 14.12 15.5391 15.0540 14.59 16.0180 15.5174 15.03 16.9297 15.9657 15.89 18.9606 18.3637 17.79 20.6790 20.0253 19.35	3.1531 12.75	2.36	ō.	1.623	1.260	•	0.552
15.0440 14.5750 14.15 15.5391 15.0540 14.59 16.0180 15.5174 15.03 16.4814 15.9657 15.47 16.9297 16.3993 15.89 18.9606 18.3637 17.79 20.6790 20.0253 19.39	3.6481 13.23	2.83	4.	2.057	1.679	•	0.944
15.5391 15.0540 14.59 16.0180 15.5174 15.03 16.4814 15.9657 15.47 16.9297 16.3993 15.89 18.9606 18.3637 17.79 20.6790 20.0253 19.39	4.1270 13.6	7	8	.476	2.085	•	.324
16.0180 15.5174 15.03 16.4814 15.9657 15.47 16.9297 16.3993 15.89 18.9606 18.3637 17.79 20.6790 20.0253 19.39	4.5904 14.	13.714	3.295	12.8823	12.4778	12.0809	1.69
16.9297 15.9657 15.47 16.9297 16.3993 15.89 18.9606 18.3637 17.79 20.6790 20.0253 19.39	5.0388 14.5	14.		3.274	2.857	•	.046
16.9297 16.3993 15.89 18.9606 18.3637 17.79 20.6790 20.0253 19.39	5.4724 14.9	14.539	4.0	3.654	3.224	•	2.390
18.9606 18.3637 17.79 20.6790 20.0253 19.39	5.8918 15.4	14.932	4.4	4.021	3.579	• 1	2.722
20.6790 20.0253 19.39	7.7919 17.241	16.7092	6.1		5.186		4.223
27 1204 21 4283 20 75	9.3982 18.794	.210	9	7	.542		.491
C1.03 C021.12 +0C1.22	0.7546 20.	19.4781	18.8679	18.2707	17.6875	17.1176	6.56
23.3557 22.6128 21.89	1.8997 21.212	.548	9.9	o.	8.654		.464
24.3902 23.6129 22.86	2.8664 22.146	.451	0.7	ö	9.470		8.227

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum of Agreement on Criteria/Standards for EA/LCC for MILCON Design.
Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes for Industrial Sector (NIST Annual Supplement to Handbook 135, Oct 1992).
<3> Region 4: MT, ID, WY, CO, NM, AZ, UT, NV, WA, OR, CA, AK, HI

ENERGY STUDIES: REGION 4

Table E-3-DO-4. Present Worth Factors--Distillate Oil

Number				Be	Beneficial O	Occupancy D	Date				
or Payments	Oct 1993	Oct 1994	Oct 1995	Oct 1996	Oct 1997	Oct 1998	Oct 1999	Oct 2000	Oct 2001	Oct 2002	
1	.969	.955		٠,	.947		•	ο.	ο.	.919	
2	.924	.903	1.8962	1.8957	1.8950	1.8947	1.8903	1.8753	1.8513	1.8216	
ım	.872	.851	•	Φ,	.842	•	•	٠.		.705	
4	821	. 799	•			•	•	•	Ψ.	.571	
יטי	4.7686	4.7465	4.7386		.717	•	•	.5	r.	.416	
۷	716	.693	.681	9		.591	.528	.446	.349	.243	
, ,	644	636	613		•	475	.393	.292	.175	.050	
- α	909	569	532	4		.341	.239	.118	.982	.836	
ο σ	538	4		8.3715	8.2886	œ	8.0658	7.9254	7.7686	7.6031	
10	45	390	.319		•	.013	.872	.711	. 535	.353	
11	0.360	10.274	10.1848	10.0824	9.9608	.820	9.6589	.478	9.2858	9.087	
12	1.244	11,140	1.030	0.908		0.606	0.425	.228	10.0200	9.802	
1 -	2.109	11.985	11,8570	-	11.5539	11.3731	176	10.9629	10.7381		
14	2.955	12.812	2.664	2.502		2.123	1.91	.681	11.4402	11.194	
15		13.61	.450	.268	•	2.857	2.628	. 383	12.1265	11.865	
	001	405	216	010	2 805	2 575	3 330	-	797.6	2.519	
		100	017	710.1	A . C . C	2.0.4	4.016	7	3.451	3.157	
	4/5.5	211.0	, 107	F A71	1.043 5.055	7 0	4.6	14.3947	14.0893	3.77	
	141.0	7.766	419	6 173	5.911	5.635	5.342	5.0	4.710	4.383	
20	17.6263	17.3749	17.1217	16.8600	16.5826	289	979	•	5.315	.972	
	244	R. 077	808	7.530	7.2	9	16.6007	6.25	5.9	5.54	
	9.046	8.763	47	8.18	17.8746	ထ	7.205	ω.	16.4777	03	
	9.732	9.434	.133	8.822	8.4	8.1	•	7.42	7.0	6.644	
	0.403	0.088	.770	9.443	9.1	8.742	8.368	7.97	ri,	7.169	
25	21.0581	20.7262	.391	.048	9.6	9.315	8.925	8.51	8.1	7.677	
30	4.084	23.672	.258	2.835	2.3	1.940	1.	0.983	0	9.985	
3 6	A 708	26.216	721	5.219	4.7	4.172	'n	3.071	4	1.939	
	8.941	28.375	810	7.239	6.6	6.062	'n	4.839	4	3.593	
4.5	30.8312	30		28.9498	3		27.0039	26.3362	25.6637	24.9930	
20	2.430	31.750	074	0.397	9.7	9.016	œ.	7.602	ė	6.177	

<1> Data Based on Assumed DOS of Apr 1993. Notes:

Authorized Period of Use of Table is Oct 1992 through Sep 1993.

<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum of Agreement on Criteria/Standards for EA/LCC for MILCON Design.

Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes for Industrial Sector (NIST Annual Supplement to Handbook 135, Oct 1992).

<3> Region 4: MT, ID, WY, CO, NM, AZ, UT, NV, WA, OR, CA, AK, HI

Table E-3-RO-4. Present Worth Factors--Residual Oil

Corr 1993 Oct 1994 Oct 1995 Oct 1996 Oct 1999 Oct 1999 Oct 2000 Oct 2001	Number				Be	Beneficial Oc	Occupancy Da	Date			
1.0016 1.0264 1.0465 1.0618 1.0773 1.0914 1.1042 1.1119 1.11119 1.1111	of ayments	199	199	19	-	-		1			Oct 2002
2 2.0281 2.1087 2.1088 4.2186 4.4313 4.4185 4.4313 4.4481 4.4185 4.4313 4.4486 6.5510 6.6510 6.6114 6.5510 6.5510	1	.001	.026	.046	9		.091	104	.111	.111	104
3, 1347 3,1855 3,2304 3,2278 3,3075 3,1347 3,1855 3,2304 3,2272 3,2272 3,2277 3,2277 3,2277 5,4959 5,5227 5,5277 5,4942 5,5495 5,5277 5,5984 6,5984 6,54942 5,4942 5,5495 5,5277 5,6989 7,6560 7,5890 7,5890 7,5890 7,5890 7,5890 7,5890 7,5890 7,5890 7,5890 7,5890 7,5890 7,5890 7,5890 11,5236 11,9236 11,8797 11,6800 11,5290 <td>7</td> <td>.028</td> <td>.072</td> <td>. 108</td> <td>Ξ.</td> <td>•</td> <td>. 195</td> <td>977.</td> <td>. 223</td> <td>200</td> <td>•</td>	7	.028	.072	. 108	Ξ.	•	. 195	977.	. 223	200	•
4.1163 4.2119 4.2769 4.3346 4.3847 4.4186 4.4413 4.4185 4.4186 7.5590 7.5890 7.5890 7.5890 7.5890 7.5890 7.5890 7.5890 7.5890 7.5758 10.5758	M	.074	.134	.185	?	•	.307	.327	. 327	905.	7/7.
6. 3050 6.4075 6.4930 6.5577 6.6000 6.6141 6.5984 6.5518 5.4942 5.5277 5.4959 5.5227 5.4942 5.4942 5.4942 5.4942 5.4942 5.5277 6.6000 6.6141 6.5984 6.5518 6.518 6.5518 6.5518 6.5518 6.5518 6.5518 6.5518 6.5518 7.5890 7.5714 10.7056 10.5758 10.5758 10.5758 10.5758 10.5758 10.5758 10.5758 10.5758 10.5758 10.5758 10.5758 11.5290 11.5299 11.5299 11.5299 11.5299 11.5299 11.5299 11.5299 11.5299 11.5299 11.5299 11.5299 11.5299 11.5299 11.5299 11.5	4	136	.211	.276	۳,	•	.418	.431	.418	.382	.328
6 3050 6.4075 6.4930 6.5577 6.6000 6.6141 6.5984 6.5518 6.5518 7.6580 7.5590 7.5590 7.5590 7.5590 7.5590 7.5998 7.6560 7.5890 7.5590 7.5890 7.5590 7.5890 7.5590 7.5890 7.5890 7.5890 7.5890 7.5890 7.5890 7.5890 7.5890 7.5890 7.5890 7.5890 7.5890 7.5890 7.5890 7.5890 7.5890 7.5960 1.9070 11.9220 11.9236 <	r LO	.213	.303	.381	4	•	. 522	. 522	. 494	.439	366
7,4091 7,5194 7,6041 7,6618 7,6913 7,6898 7,6560 7,5890 11,5290 <td></td> <td>305</td> <td>707</td> <td></td> <td></td> <td>٠ ٠</td> <td></td> <td>6.5984</td> <td>.551</td> <td>.477</td> <td>6.3828</td>		305	707			٠ ٠		6.5984	.551	.477	6.3828
7, 4091 6, 2034 7, 2034 6, 2034 7, 2034 7, 2034 7, 2034 7, 2034 7, 2034 7, 2034 7, 2034 9, 2032 8, 6036 8, 6036 9, 8288 9, 8246 9, 7846 9, 7100 9, 6014 9, 6014 9, 6014 9, 6014 9, 6014 9, 6014 9, 6014 9, 6014 9, 6014 9, 6014 9, 6014 9, 6014 9, 6014 9, 8288 9, 8246 9, 7100 10, 6010 11, 5299 11, 5299 11, 5290 11, 5290 11, 5290 11, 5290 11, 5290 11, 5290 11, 5290 11, 5290 11, 5290 11, 5290 11, 5290 12, 8743 12, 7714 12, 5341 12, 4637 12, 4637 12, 12, 539 11, 5290 11, 5299 11, 5299 11, 5290 11, 5290 11, 5290 11, 5299 11, 5299 11, 5290 11, 5299 11, 5299 11, 5299 11, 5299 11, 5299 11, 5299 11, 5299 11, 5290 11, 5299 11, 5299 11, 5299 11, 5299 11, 5299 11, 5299 11, 5299 11, 5299	ו ס	000	֓֞֜֜֜֜֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֡֓֓֓֡֓֓֡֓֓֓֡֓֓	•	•	7 6913	, ,	7.6560	589	494	r.
8 5.221 9.0330 9.7321 9.7324 9.7346 9.7346 9.7700 9.6014 9.6014 9.6221 0 10.7363 10.8260 10.8753 10.8864 10.8618 10.8014 10.7056 10.5758 10. 1 10.7363 10.8260 11.9329 11.9236 11.8787 11.7970 11.6800 11.5299 11. 1 12.9603 12.9701 12.9405 12.8448 12.7714 12.6341 12.4637 12.4637 1 12.9609 13.9965 13.9869 13.9366 13.9487 12.7714 12.6341 12.4637 13.725 1 16.0150 16.0834 16.9104 14.8028 14.4802 15.3749 15.1444 14. 6 17.0106 16.9834 16.9110 16.7983 16.6501 16.4663 16.2486 15.3449 15.1444 14. 1 17.9850 17.718 17.746 17.718 17.3400 17.1026 16.8330 16.	7	. 40 v	. מלט מלט	•	•	07.97	•	8.6932	.605	.489	'n.
9 9.6322 9.7349 9.7349 9.7349 9.7349 9.7349 9.7349 9.7349 9.7349 9.7349 9.7349 10.8260 10.8763 10.8769 10.7363 10.8269 11.9236 11.8787 11.7970 11.6800 11.5299 11. 1 12.9932 12.9701 12.9405 12.8743 12.7714 12.6341 12.4637 12.9405 1 12.9982 13.9965 13.9360 13.9360 13.9360 13.9360 13.9360 13.9360 13.9360 13.9360 13.9367 12.4637 12.714 12.63749 12.4637 12.714 12.4814 14.777 14.6593 14.4814 14.277 14.6593 14.4814 14.277 14.6593 15.1444 14.777 14.6593 15.4463 15.1444 14.777 14.6593 15.7463 15.7469 15.1444 14.777 14.7718 17.546 17.7444 14.777 14.7718 17.546 17.7444 14.777 14.777 14.777 14.777 14.777 14.777 </td <td>∞ (</td> <td>125.</td> <td>2000</td> <td>•</td> <td>•</td> <td>9 8246</td> <td>784</td> <td>9.7100</td> <td>.601</td> <td>.463</td> <td>9.3069</td>	∞ (125.	2000	•	•	9 8246	784	9.7100	.601	.463	9.3069
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6 17.0106 16.9834 16.9110 16.7983 16.6501 16.4663 16.2486 15.9984 15.9084 17.9372 17.6474 17.9972 17.6474 17.9972 17.6474 17.9972 17.6474 17.9972 18.6672 19.662 19.2135 18.4407 18.662 19.2135 18.4407 18.662 19.212 18.4407 18.662 18.4407 18.662 19.2135 18.4407 18.662 19.2135 18.4407 18.662 19.2135 18.4407 18.662 19.2135 18.4407 18.662 19.2135		6.015	16.008	5.956	5.8	ហ	5.572	5.3	2	886	9
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5 32.0876 31.6792 31.2266 30.7352 30.2102 29.6521 29.0629 28.4444 27.802 5 32.0876 31.6792 33.2488 32.6414 32.0036 31.3372 30.6442 29.929 3 4.8657 34.3662 35.0253 35.3764 34.6992 33.9940 33.2623 32.5061 31.730 5 37.2172 36.6406 36.0253 35.3764 34.6992 33.9940 33.2623 32.5061 31.730 5 39.2075 38.5657 37.8872 37.1773 36.4411 35.6787 34.8918 34.0822 33.255	ć,	100	28 513	6	27.767	33	9	6.375	5.845	5.288	24.7143
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39.2075 38.5657 37.8872 37.1773 36.4411 35.6787 34.8918 34.0822 33.255	0		000.40	י י		34		3.262	2.506	1.730	.945
	4 5 C D	7.77.7	28.54U	. מ	37.1	36.	5.678	4.891	4.082	3.255	.419
	OC	7.50	200	:	;						

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum
of Agreement on Criteria/Standards for EA/LCC for MILCON Design.
Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes
for Industrial Sector (NIST Annual Supplement to Handbook 135, Oct 1992).
<3> Region 4: MT, ID, WY, CO, NM, AZ, UT, NV, WA, OR, CA, AK, HI

ENERGY STUDIES: REGION 4

Table E-3-NG-4. Present Worth Factors--Natural Gas

Payments Oct 1993 Oct 1994 Oct 1995 Oct 1997 Oct 1998 Oct 1999 Oct 2000 Oct 2001 Oct 2002 Oct 2000 Oct	Number				Be	Beneficial O	Occupancy D	Date			
1.9952 0.9971 0.9983 0.9415 0.9334 0.9344 0.9402 0.9497 0.9495 2.9175 2.9174 2.9175 2.9174 2.8189 1.8784 1.8874 1.8996 1.8996 1.8996 1.8996 1.8996 1.8996 1.8997 0.9470 0.9470 2.8189 2.8189 2.8189 2.8189 2.8496 3.7519 3.7519 3.7519 3.7519 3.7519 3.7519 3.7519 3.7519 3.7619 3.7819 3.7869 3.7869	or Payments	199	199	ct 199	199	ct 19	19	199	~	~	~
2 1.9592 1.8998 1.8745 1.871 1.871 1.871 1.8864 1.8894 1.8864	1	.987	.972	6	.941	6.	٠,	6.	6.	•	.949
2,9175 2,8179 2,8379 2,8379 2,8406 2,8440 2,8440 2,8457 2,8457 2,8457 2,8457 2,8457 2,8457 2,8457 3,7489 3,7489 3,7489 3,7489 3,7489 3,7489 3,7489 4,6934 4,6990 4,7153 4,7275 4,7279 4,7180 4,7189 4,7189 4,7189 4,7189 4,7189 4,7189 4,7189 4,6990 4,7153 4,7275 4,7180<	2	959	.930	8	.874	8	Φ.	æ	æ	•	.895
4 3.88541 3.86541 3.7660 3.7812 3.7869 3.7839 3.7839 3.7839 3.7839 3.7839 3.7839 3.7839 3.7839 3.7839 3.7839 3.7839 3.7839 3.7839 3.7839 3.7839 3.7839 3.7839 3.7839 3.7839 4.7150 4.7150 4.7150 4.7160 4.7160 4.7160 4.7160 4.7160 4.7160 4.7160 4.7160 4.7160 4.7160 4.7160 5.6608 6.5608 6.5608 6.5608 6.5608 6.5609 6.5030 6.5030 6.5030 6.5030 6.5030 6.5030 6.5030 6.5030 6.5030 6.5030 6.5030 6.5030 6.5030 6.5030 6.5030 6.5030 <td>ım</td> <td>.917</td> <td>.871</td> <td>ω,</td> <td>.808</td> <td>8</td> <td>Φ.</td> <td>φ.</td> <td>æ</td> <td>•</td> <td>.836</td>	ım	.917	.871	ω,	.808	8	Φ.	φ.	æ	•	.836
6 4.7921 4.7391 4.7076 4.6930 4.7153 4.7275 4.7279 4.7160 4.6890 6 6668 6.6589 6.5888 6.5888 6.5886 6.5893 6.5893 6.5893 6.5893 6.5898	4	.859	.804		.749					•	.768
6.5668 5.6518 5.6408 5.6408 5.6616 5.6616 5.6608 5.6503 5.6361 5.6361 5.6361 5.6361 5.6361 5.6361 5.6361 5.6361 5.6361 5.6361 5.6361 5.6361 5.6361 5.5361 5.5364 6.6027 6.6088 6.5898 6.5946 6.6027 6.6008 6.5803 6.5361 5.5461 7.4570 7.4571 7.4571 7.4571 7.4571 7.4571 7.4571 7.4572 7.4572 8.4679 8.4351 8.4302 8.3842 8.3547 8.301 1 0.5074 9.4666 9.4355 9.4094 9.3881 10.2873 10.22973 10.2396 10.2973 10.2396 10.2973 10.2396 10.2973 10.2396 10.2973 10.2396 10.2973 10.2973 10.2973 10.2973 10.995 10.896 9.2468 9.2469 9.3881 10.2973 10.2973 10.996 9.2989 9.2989 10.2873 10.2873 12.2672 12.2672 12.2672	'n	.792	.739	. 7	. 693	φ.		. 7		• 1	. 689
6.6668 6.6239 6.5898 6.5898 6.5846 6.6008 6.5803 6.5853 6.5453 6.5453 6.5453 6.5543 6.5543 6.5503 6.5454 6.5008 6.5803 6.5453 6.5453 6.5543 6.5543 6.5543 6.5503 6.5494 7.5482 7.5357 7.5349 7.5209 7.4801 7.4501<	9	.72	٩	.651	9٠	.648	.661		99.	9.	. 598
8 7.6110 7.5709 7.5482 7.5361 7.5349 7.5209 7.4895 7.4501 7.4401 7.601 7.4401 7.601 7.4401	, ,	99	9	. 59	. r	. 594	.602	•	.58	ı.	.503
8.5560 8.5203 8.4944 8.4772 8.4679 8.4551 8.4302 8.3942 8.3547 8.304 9.5074 9.4666 9.4285 9.4094 9.3881 9.3643 9.3349 9.2889 9.2486 9.176 1 10.4537 10.4076 10.3678 10.3296 10.2873 10.2395 10.1334 11.0675 10.9934 11.0867 1 12.3270 12.2600 12.1971 12.1438 12.1066 12.0675 11.0934 11.0873 10.0924 10.0827 10.2897 10.0897 10.0897 10.0897 10.0897 10.0897 10.0997 10.0992 10.0997 10.0997 10.0897 10.0997	- α	61	, LG	54	S	.535	.534	•	.48	4.	.407
0.55074 9.4666 9.4355 9.4094 9.3881 9.3643 9.3349 9.2989 9.2486 9.176 10.4537 10.4076 10.3678 10.2296 10.2299 10.1927 10.1023 10.032 11.3947 11.3399 11.2879 11.2386 11.2020 11.1334 11.0675 10.9924 11.687 13.2471 13.1692 13.1018 12.10941 13.2006 12.9429 12.0864 11.697 10.9292 10.869 13.2471 13.1692 13.1018 13.20481 13.2471 14.0655 13.9420 12.1676 12.0675 12.0082 13.6494 13.2491 13.2471 14.0739 14.0666 13.6752 13.7981 13.7011 13.5790 13.4349 13.269 15.0611 14.0739 14.8168 14.7311 14.6352 14.43901 14.2168 14.731 16.8596 16.6310 16.5320 15.662 15.562 15.453 15.1016 15.923 14.434 13.434 13.434 <td>) o</td> <td>555</td> <td>, R</td> <td>49</td> <td>4</td> <td>.467</td> <td>.455</td> <td>•</td> <td>.39</td> <td>Ŀ.</td> <td>.301</td>) o	555	, R	49	4	.467	.455	•	.39	Ŀ.	.301
10.4537 10.4076 10.3678 10.2296 10.2690 10.2395 10.1927 10.1233 10.0123 2.3770 12.3600 12.12879 11.2388 11.2020 11.1736 11.134 11.0675 10.9792 10.869 13.2370 12.2600 12.1435 12.1066 12.9423 11.0675 11.0675 10.9792 10.869 13.2471 13.1018 13.9420 13.8753 12.9423 11.0675 12.6349 11.687 15.0611 14.0739 14.0065 13.9420 13.8753 14.5196 14.3791 14.2168 11.4796 15.0611 14.0736 14.031 14.6520 15.4537 15.1610 14.2776 13.4349 13.269 15.0611 14.072 16.3867 16.2867 16.2877 16.3867 16.3867 14.775 16.8956 16.7472 16.5097 16.3867 17.0357 16.8645 16.4470 16.3867 16.3867 16.4470 16.4470 17.296 17.796 17.6078		.50	4	.43	4.	.388	.364	•	. 29	7	.176
11.3947 11.3399 11.2879 11.2388 11.2020 11.1736 11.1334 11.0675 10.9792 10.869 3 12.3270 12.21660 12.0675 12.0675 12.0675 12.0874 11.8163 11.687 4 13.2470 12.22600 12.1018 13.0481 13.0065 12.1048 13.0006 12.0874 12.4874 12.4874 12.4874 12.4879 13.269 12.2864 12.7605 13.4349 13.269 13.695 12.6874 12.4879 13.4349 13.269 13.695 12.6879 13.4349 13.269 13.695 13.4349 13.269 13.695 13.4349 13.269 13.696 13.4349 13.269 13.696 13.4349 13.269 13.696 13.4349 13.269 13.696 13.4349 13.269 13.696 13.449 13.269 13.449 13.269 13.449 13.269 13.449 13.269 13.449 13.269 13.449 13.269 13.449 13.269 13.269 13.269 13.249<		0.453	0.40	0.3	0.329	0.297	0.269	0.2	0.192	0.123	.032
3 12.3270 12.2600 12.1971 12.1435 12.1066 12.0675 12.0082 11.9234 11.8163 11.687 4 13.2471 13.1692 13.1018 13.00481 13.0005 12.9423 12.8640 12.7605 12.4848 12.4848 15.2471 13.1692 13.1018 13.00481 13.0005 12.9423 12.8640 12.7605 12.4848 12.4849 15.0611 14.0736 14.0005 13.4721 14.6352 14.5196 14.3791 14.775 16.8646 15.730 15.4775 15.682 15.582 15.437 16.4770 16.8645 16.8645 16.8645 16.8645 16.8645 16.4770 16.8910 14.775 16.8910 14.775 16.8645 </td <td></td> <td>1.394</td> <td>1.33</td> <td>1.2</td> <td>1.238</td> <td>1.202</td> <td>1.173</td> <td>1.1</td> <td>1.067</td> <td>0.979</td> <td>.869</td>		1.394	1.33	1.2	1.238	1.202	1.173	1.1	1.067	0.979	.869
4 13.2471 13.1692 13.1018 13.0481 13.0005 12.9423 12.8640 12.7605 12.6348 12.487 5 14.1563 14.0065 13.9420 13.0005 12.9423 12.8640 12.7605 13.4349 13.269 6 15.0611 14.0739 14.0065 13.9420 13.8753 15.1610 14.3791 14.2168 14.032 7 15.9657 15.8724 15.7751 15.6726 15.5682 15.4537 16.1610 14.3791 14.2168 14.075 1 16.8596 16.7751 16.6507 16.2538 17.0357 16.8645 16.4775 16.8645 14.775 16.8645 16.2539 15.4470 16.205 16.2667 16.2538 17.0351 14.775 16.2667 16.2538 17.0351 18.7467 17.7986 17.6078 17.3911 17.1521 16.891 1 19.2587 19.2865 19.61731 19.4749 19.2659 19.0369 18.7639 18.7672 18.240		2.327	2.26	2.1	2.143	2.106	2.067	2.0	1.923	1.816	.687
5 14.1563 14.0739 14.0065 13.9420 13.8753 13.7981 13.7011 13.5790 13.4349 13.269 6 15.0611 14.9786 14.9003 14.8168 14.7311 14.6352 14.5196 14.3791 14.2168 14.032 8 15.967 15.8724 15.7751 15.6726 15.5682 15.4537 15.3197 15.1610 14.9797 14.775 9 17.7343 17.6031 17.4681 17.3282 17.1868 17.0357 16.8645 16.6671 14.9797 14.775 1 19.4273 19.2587 19.0866 18.9102 18.7316 18.5419 18.3318 18.0963 17.8387 17.560 2 20.2458 20.0588 19.8685 19.6731 19.4749 19.2659 19.0369 18.7829 18.5729 18.510 2 20.2458 20.0588 19.8685 19.6731 19.4749 19.2659 19.0369 18.7829 18.7829 18.5712 18.511		3.247	3.16	3.1	3.048	3.000	2.942	2.8	2.760	2.634	.487
6 15.0611 14.9786 14.9003 14.8168 14.7311 14.6352 14.5196 14.3791 14.2168 14.0757 15.9657 15.8724 15.7751 15.6726 15.5682 15.4537 15.3197 15.1610 14.9797 14.775 16.8596 16.7472 16.6310 16.5097 16.3867 16.2538 16.1016 15.9239 15.7230 15.499 16.8596 16.7472 16.6310 16.5097 16.3867 16.1016 15.9239 15.7230 15.499 18.5902 18.402 18.1283 17.0868 17.0968 17.0968 17.5078 17.3911 17.1521 16.891 20.2458 20.0588 19.8685 19.6731 19.4749 19.2659 19.0369 18.5072 18.210 31.0459 20.0588 19.6855 19.6731 19.4749 19.259 19.0369 18.7324 17.596 20.2458 20.0588 19.6731 19.4749 19.259 19.0369 18.4514 19.187		4.156	4.07	4.0	3.942	3.875	3.798	3.7	3.579	3.434	.269
7 15.9657 15.8724 15.7751 15.6726 15.5682 15.4537 15.3197 15.1610 14.9797 14.775 8 16.8596 16.772 16.5310 16.5097 16.3867 16.2538 16.1016 15.9239 15.7230 15.499 9 17.7343 17.6031 17.4681 17.382 17.1868 17.0357 16.8645 16.470 16.4470 16.4490 1 18.5902 18.2865 18.1283 17.9687 17.6078 17.3911 17.1521 16.891 2 20.2458 20.0588 19.8685 19.6731 19.4749 19.2659 19.0369 18.7829 18.210 17.550 2 20.2458 20.08407 20.6315 20.4164 20.1989 19.7235 19.4514 19.152 19.7235 19.453 19.453 19.453 19.453 19.453 19.453 19.453 19.569 19.0369 18.731 17.550 18.210 19.783 19.259 19.259 19.259 19.259		5.061	4.978	4.900	4.816	4.731	4.635	4.5	4.379	4.2	4.032
8 16.856 16.7472 16.6310 16.5097 16.3867 16.2538 16.1016 15.9239 15.7230 15.499 9 17.7343 17.6031 17.4681 17.3282 17.1368 17.0357 16.8645 16.6671 16.4470 16.205 1 18.5902 18.4402 18.1283 17.1868 17.0357 16.8645 16.6671 16.4470 16.205 2 18.5902 18.2865 18.1283 17.9687 17.7986 17.6078 17.3911 17.1521 16.891 2 20.2458 20.0588 19.8685 19.6731 19.4749 19.2659 19.0369 18.7829 18.210 17.560 3 20.2458 20.6315 20.4164 20.1989 19.9710 19.7235 19.4514 19.1571 18.841 4 21.8278 21.1404 20.1989 19.9710 19.7235 19.4514 19.1571 18.841 5 22.5907 22.3468 22.0987 21.1404 20.9040 <		5.965	5.872	5.7	5.672	5.568	5.453	5.3	5.161	4.9	4.775
17.7343 17.6031 17.4681 17.3282 17.1868 17.0357 16.8645 16.6671 16.4470 16.205 18.5902 18.4402 18.2865 18.1283 17.9687 17.7986 17.6078 17.3911 17.1521 16.805 19.4273 19.2867 19.0866 18.9102 18.7316 18.5419 18.3318 18.0963 17.8387 17.560 20.2458 20.0588 19.8685 19.6731 19.4449 19.2659 19.0369 18.7829 18.5072 18.210 3 21.0459 20.2469 20.3920 20.1013 19.453 19.453 4 21.5067 21.3261 21.3261 21.3247 20.4002 20.045 5 22.5907 22.0987 21.5906 21.3261 21.0419 20.7324 20.4002 20.045 5 22.5907 22.4400 25.0936 24.7448 24.3857 24.0074 23.6044 23.1802 25.5341 25.5341 25.334 25.347 26.0392 <td< td=""><td></td><td>6.829</td><td>6.747</td><td>9.9</td><td>6.509</td><td>6.386</td><td>6.253</td><td>6.1</td><td>5.923</td><td>5.7</td><td>5.499</td></td<>		6.829	6.747	9.9	6.509	6.386	6.253	6.1	5.923	5.7	5.499
18.5902 18.4402 18.12865 18.1283 17.9687 17.7986 17.6078 17.3911 17.1521 16.891 1 19.4273 19.2587 19.0866 18.9102 18.7316 18.5419 18.3318 18.0963 17.8387 17.560 2 20.2458 20.08407 20.4164 20.1989 19.9710 19.7535 19.4514 19.1571 18.841 3 21.0459 20.08407 20.4164 20.1989 19.9710 19.7535 19.4514 19.1571 18.841 4 21.8278 21.3747 21.1404 20.9040 20.6576 20.3920 20.1013 19.7882 19.4514 19.1571 18.841 2 21.8278 21.5907 21.8455 21.5906 21.3261 21.0419 20.7324 20.4002 20.1033 20.7455 20.4002 20.6576 20.3920 20.7103 19.7882 19.4544 19.1571 19.4544 20.4002 20.6576 20.3049 20.7401 20.74002 20.4002 20.7401 </td <td></td> <td>7.734</td> <td>7.603</td> <td>7.4</td> <td>7.328</td> <td>7.186</td> <td>7.035</td> <td>6.8</td> <td>6.667</td> <td>6.4</td> <td>6.205</td>		7.734	7.603	7.4	7.328	7.186	7.035	6.8	6.667	6.4	6.205
19.4273 19.2587 19.0866 18.9102 18.7316 18.5419 18.3318 18.0963 17.8387 17.560 20.2458 20.0588 19.8685 19.6731 19.4749 19.2659 19.0369 18.7829 18.5072 18.210 20.2458 20.0588 19.8685 19.6731 19.4749 19.2659 19.0369 18.7829 18.5072 18.210 4 21.0459 20.68407 20.6315 20.4164 20.1989 19.9710 19.7235 19.4514 19.1571 18.841 5 21.8278 21.6036 21.3747 21.1404 20.9040 20.6576 20.3920 20.1013 19.7882 19.453 5 22.5907 22.3468 22.0987 21.5906 21.3261 21.0419 20.7324 20.4002 20.045 5 22.180 22.4748 24.7448 24.3857 24.0074 23.6044 23.1802 22.736 5 29.1778 28.7465 27.8756 27.4350 26.9884 26		8.590	8.440	8.2	8.128	7.968	7.798	7.6	7.391	7.1	6.891
2 20.2458 20.0588 19.8685 19.6731 19.4749 19.2659 19.0369 18.7829 18.5072 18.210 3 21.0459 20.8407 20.6315 20.4164 20.1989 19.9710 19.7235 19.4514 19.1571 18.841 4 21.8278 21.6036 21.3747 21.1404 20.9040 20.6576 20.3920 20.1013 19.7882 19.453 5 22.5907 22.3468 22.0987 21.8455 21.5906 21.3261 21.0419 20.7324 20.4002 20.045 0 26.1182 25.7810 25.0936 24.7448 24.3857 24.0074 23.6044 23.1802 22.736 5 29.1778 28.7465 27.8736 27.4350 26.9884 26.5247 26.0392 25.5351 25.5351 25.013 5 31.7805 31.2638 32.2218 31.6406 31.0561 30.4590 29.8444 29.2155 28.5351 25.5351 25.584 26.984		9.427	9.258	9	.910	8.731	8.541	8.3	8.096	7.8	7.560
21.0459 20.8407 20.6315 20.4164 20.1989 19.9710 19.7235 19.4514 19.1571 18.841 4 21.8278 21.6036 21.3747 21.1404 20.9040 20.6576 20.3920 20.1013 19.7882 19.453 5 22.5907 22.3468 22.0987 21.8455 21.5906 21.3261 21.0419 20.7324 20.4002 20.045 0 26.1182 25.7810 25.0936 24.7448 24.3857 24.0074 23.6044 23.1802 22.736 5 29.1778 28.7465 28.3120 27.8736 27.4350 26.9884 26.5247 26.0392 25.5351 25.013 5 31.7805 31.2638 30.7467 30.2285 29.7127 29.1914 28.6555 28.1000 27.5284 26.941 5 33.9836 32.8076 32.2218 31.6406 31.0561 30.4590 29.8444 29.2155 28.5584 26.954 5 3481 35.8676		0.245	0.0	6	9.673	9.474	9.265	9.0	8.782		8.210
4 21.8278 21.6036 21.3747 21.1404 20.9040 20.6576 20.3920 20.1013 19.7882 19.453 5 22.5907 22.3468 22.0987 21.8455 21.5906 21.3261 21.0419 20.7324 20.4002 20.045 0 26.1182 25.7810 25.4400 25.0936 24.7448 24.3857 24.0074 23.6044 23.1802 22.736 5 29.1778 28.7465 28.3120 27.8736 27.4350 26.9884 26.5247 26.0392 25.5351 25.013 1 28.1765 31.2638 30.7467 30.2285 29.7127 29.1914 28.6555 28.1000 27.5284 26.941 5 33.9835 33.3946 32.2218 31.6406 31.0561 30.4590 29.8444 29.2155 28.5536 5 35.8481 35.1981 34.5520 33.2724 32.6344 31.9856 31.3209 30.6436 29.954		1.045	8.0	ö	0.416	0.198	9.971	9.7	9.451	9.1	8.841
5 22.5907 22.3468 22.0987 21.8455 21.5906 21.3261 21.0419 20.7324 20.4002 20.045 0 26.1182 25.7810 25.0936 24.7448 24.3857 24.0074 23.6044 23.1802 22.736 5 29.1778 28.7465 28.3120 27.8736 27.4350 26.9884 26.5247 26.0392 25.5351 25.013 0 31.7805 31.2638 30.7467 30.2285 29.7127 29.1914 28.6555 28.1000 27.5284 26.941 5 33.9835 33.3946 32.2218 31.6406 31.0561 30.4590 29.8444 29.2155 28.5573 5 35.8481 35.1981 34.5520 33.9090 33.2724 32.6344 31.9856 31.3209 30.6436 29.954		1.827	1.6	ä	1.140	0.904	0.657	0.3	0.101	9.7	9.453
26.1182 25.7810 25.4400 25.0936 24.7448 24.3857 24.0074 23.6044 23.1802 22.735 5 29.1778 28.7465 28.3120 27.8736 27.4350 26.9884 26.5247 26.0392 25.5351 25.013 0 31.7805 31.2638 30.7467 30.2285 29.7127 29.1914 28.6555 28.1000 27.5284 26.941 5 33.9835 33.3946 32.2218 31.6406 31.0561 30.4590 29.8444 29.2155 28.573 0 35.8481 35.1981 34.5520 33.2724 32.6344 31.9856 31.3209 30.6436 29.954		2.590	2.3	2	1.845	1.590	1.326	1.0	0.732	0.4	0.045
5 29.1778 28.7465 28.3120 27.8736 27.4350 26.9884 26.5247 26.0392 25.5351 25.013 0 31.7805 31.2638 30.7467 30.2285 29.7127 29.1914 28.6555 28.1000 27.5284 26.941 5 33.9835 33.3946 32.2218 31.6406 31.0561 30.4590 29.8444 29.2155 28.573 0 35.8481 35.1981 34.5520 33.9090 33.2724 32.6344 31.9856 31.3209 30.6436 29.954	30	6.118	5.781	l v	5.093	4.744	4.385	4.0	3.60	3.180	2.736
0 31.7805 31.2638 30.7467 30.2285 29.7127 29.1914 28.6555 28.1000 27.5284 26.941 5 33.9835 33.3946 32.8076 32.2218 31.6406 31.0561 30.4590 29.8444 29.2155 28.573 0 35.8481 35.1981 34.5520 33.9090 33.2724 32.6344 31.9856 31.3209 30.6436 29.954	. C.	9.177	8.746	ä	7.873	7.435	6.988	6.5	6.03	5.535	5.013
5 33.9835 33.3946 32.8076 32.2218 31.6406 31.0561 30.4590 29.8444 29.2155 28.573 0 35.8481 35.1981 34.5520 33.9090 33.2724 32.6344 31.9856 31.3209 30.6436 29.954	40	1.780	1.263	o	0.228	9.712	9.191	8.6	8.10	7.528	6.941
0 35.8481 35.1981 34.5520 33.9090 33.2724 32.6344 31.9856 31.3209 30.6436 29.954	45	3.983	3.394	ö	2.221	1.640	1.056	4.0	9.84	9.215	8.573
	20	5.848	5.198	4.	3.909	3.272	2.634	1.9	1.32	0.643	9.954

Notes:

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum
of Agreement on Criteria/Standards for EA/LCC for MILCON Design.
Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes
for Industrial Sector (NIST Annual Supplement to Handbook 135, Oct 1992).
<3> Region 4: MT, ID, WY, CO, NM, AZ, UT, NV, WA, OR, CA, AK, HI

Table E-3-SC-4. Present Worth Factors--Steam Coal

Payments Oct 1993 (2	0.9332 1.8333 2.6934 3.5179 4.3205 5.1018	Oct 1995	١,		1				
22 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.00.00.00.		Oct 1996	OCT 1997	Oct 1998	Oct 1999	Oct 2000	Oct 2001	Oct 2002
1 2 6 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	ຜ .ຄ.ຄ.ຍ. ⊷. జ.	٠	0.8601	.824	02	0.7813	0.7649	0.7443	0.7199
2	A R. L. L. A.	~	•	2	'n	ຫຼ	. 509	1.4642	•
22	1. i.	'n	7	.408	.348	Ġ	.229	•	•
2	ي بي	۳.	ď	.173	.093	٥.	.925	•	•
2	ן הַ מּ	Τ.	0	.917	.813		. 598	•	•
6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	α	6.			.509	.380	.250		.988
6.8 11.5 10.9 1	•	ø.	4.	•	.182	.031	.881	•	. 592
2. 2 8 8.9 2. 2 8 8.9 2. 2 8 8.9 2. 2 10.3 3 10.9 3 11.5 1 12.7 1 12.7 1 14.9 1 15.5	φ.	۳.	Τ.	•	.833	.662	.497	•	.184
8 8 9 10.3 1 10.3 1 10.3 1 11.5 1 12.1 1 14.9 1 15.5 1 15.5	Ε.	0	6.8672	6.6584	6.4655	6.2788	6.1015	5.9286	5.7624
8.994 9.668 10.319 11.566 6 12.170 7 12.762 9 13.905 14.455 14.993 15.029	•		r.	•	.081	.882	. 693	•	.326
2 9.668 4 10.319 5 11.566 7 12.170 8 13.340 9 13.340 14.993 3 16.029	8.7005	41	8.1501	7.9060	.685	4	.271	•	.877
10.319 5 10.950 11.566 12.170 13.905 13.905 14.455 14.993 16.029	.351	0		509	7	8.0529		7.6216	7.4148
5 10.950 6 12.170 7 12.762 8 13.340 9 14.455 14.993 1 16.029	9.9834	.66	•	•	.855	9.	.386	•	.939
5 11.566 6 12.170 7 12.762 9 13.340 9 14.455 0 14.455 1 14.993 2 15.517 3 16.029	0.599	0.27	ο.	.680	.419	٦.	.924	•	.451
12.170 12.762 13.340 13.905 14.455 14.993 15.517 16.029	.203	.86	rů.	. 244	.970		.448	•	.950
12.762 13.340 9 13.905 0 14.455 1 14.993 2 15.517 3 16.029	٦.		1.104	0.794	0.507	0.229	9.9604	9.6951	.438
13.340 9 13.905 0 14.455 1 14.993 2 15.517 3 16.029	۳.	ς.	1.655	1.332	1.032	0.741	4	v	9.914
13.905 0 14.455 1 14.993 2 15.517 3 16.029		12.5551	12.1924	11.8569	11.5443	11.2412	10.9476	10.6585	10.3787
14.455 1 14.993 2 15.517 3 16.029	7.	'n	2.716	2.368	2.043	1.728	4	_	0.831
1 14.993 2 15.517 3 16.029	0.	•	3.228	2.868	2.531	2.204	₩.	_	1.274
15.517 3 16.029	4.550	4.12	3.728	3,355	3.007	2.669	2.341	•	11.7060
3 16.029	5.062	4.62	4.2		•	13,1224	12.7835	12.4503	2.1
	5.561	5.11	4.691	4.296	3.925	3.564	3.215	6	•
4 16.529	6.049	5.59	5,156	4.749	4.367	3.996	3.636	•	2.9
5 17.016	. 52	•	. 609	5.191	4.799	4.417	4.047	m	3.3
19.284	.738	ω,	7.7	7.249	6.80	6.377	5.960	l r.	5.153
21.292	.698	ö	9.5	9.070	8.58	8.112	7.653	3	6.766
		21.8224	21.2369	20,6839	20.1592	19.6490	19,1533	•	18.1946
24.644	.969	'n	2.7	2.112	1.55	1.009	0.481	σ.	9.459
26.038	.330	4.	٠. م	3.376	2.78	2.214	1.656	٦.	0.579

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum
 of Agreement on Criteria/Standards for EA/LCC for MILCON Design.
 Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes
 for Industrial Sector (NIST Annual Supplement to Handbook 135, Oct 1992).
<3> Region 4: MT, ID, WY, CO, NM, AZ, UT, NV, WA, OR, CA, AK, HI

ENERGY STUDIES: REGION 4

Table E-3-LP-4. Present Worth Factors--Liquified Petroleum Gas (LPG)

Number				Be	Beneficial O	Occupancy D	Date			
oi Payments	Oct 1993	Oct 1994	Oct 1995	Oct 1996	Oct 1997	Oct 1998	Oct 1999	Oct 2000	Oct 2001	Oct 2002
1	.962	.929	906.	8	8.	8	.857		•	•
7	1.8912	1.8353	1.7991	1.7733	1.7491	1.7265	0	1.6715	1.6374	1.6005
e	.797	.728	.679	φ.	9	ស	.529	•	2.4281	•
4	.690	.608	.548	7	4.	r.	.339	•	•	•
'n	.570	.477	.405	C.	Ċ.	4	.129	•	•	•
9	.439	.335	.249	7	9	۰,	900			.563
	.297	.179	.077	σ,	ω.		.651	•	•	.254
- αο	.141	.006	.887		9	.5	.381	•	•	.926
6	σ	ω	7.6779	7.5425	7.4003	7.2504	7.0923	6.9258	6.7540	6.5819
10	.778	.607	.448	8.2932	۲.	ο.	. 783	•	•	.223
	.569	.377	.199	.023	.841			7		7.8510
	0.339	0.128	.929	.734	.532		•	æ	•	4.
	H	10.8590	ö	0.4	10.2047	9.9799	9.7526	9.5225	9.2924	9.0650
	1.821	1.569	.331	.097	0.860	•	•	٦.	•	9.6
15	31	2.260	2.003	1.753	1.501	÷.	ċ	0.7	•	7
	3.222	2.933	2	2.394	2.12	1.8	1.594	1.3	1.0	ြဲ
	3.895	3.588	ω.	3.022	2.74	2.4	2.180	1.8	1.6	ä
18	14.5504	14.2299	13.9284	13.6361	13,3433	13.0497	12.7543	12.4561	12.1572	11.8605
	5.191	4.857	4	4.236	3.93	3.6	3.313	3.0	2.6	તં
20	5.819	5.471	'n	4.823	4.50	4.1	3.858	3.5	3.2	'n
	6.433	6.071	5.729	15.3964	.062	4.727	4.389	4.0	۲.	3.3
	0	65	16.3025	5.955	5	Ġ	90	•	4.198	13.8479
	7.620	7.231	6.862	6.50	.138	5.775	5.410	5.0	9	4.3
	8.193	7.791	7.407	7.031	6.655	6.279	.900	ū	5.1	4.7
25	8.753	8.336	7.937	.548	7.159	6.769	6.377	5.9	5.5	5.1
30	1.339	0.854	o	9.9	9.472	9.0	8.5	8.0	7.6	17.1668
35	3.583	3.029	6	1.9	1.445	6.0	9	9.8	9.3	18.8371
40	5.492	4.875	4	3.6	3.115	2.5	1.9	1.3	8.0	20.2508
45	27.1076	26.4376	25.7909	25.1579	24.5291	23.9044	23.2828	22.6642	22.0514	21.4475
50	8.475	7.760	<u>.</u>	6.3	5.725	5.0	4.4	3.7	9. O	22.4604

Notes:

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum of Agreement on Criteria/Standards for EA/LCC for MILCON Design.
Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes for Residential Sector (NIST Annual Supplement to Handbook 135, Oct 1992).
<3> Region 4: MT, ID, WY, CO, NM, AZ, UT, NV, WA, OR, CA, AK, HI

Table E-3-EL-5. Present Worth Factors--Electricity

Payments Oct 1993 Oct 1994 Oct 1994 Oct 1999 Oct 1994 Oct 2000	Number				Be	Beneficial O	Occupancy D	Date			
0.9619 0.9297 0.8968 0.8620 0.8311 0.8058 0.7652 1.7594 1.5548 1.6424 1.7634 1.7594 1.5488 1.6483 1.6489 1.6516 1.5596 1.5548 2.2286 2.7688 2.7884 2.7888 2.6889 2.4889 2.4415 3.1867 3.0968 3.1867 3.0968 3.0132 2.9277 2.2286 2.5287 2.5281 2.6884 4.7916 4.6850 4.5181 4.0869 4.7916 4.6501 4.5181 4.0869 5.2121 5.1897 3.0999 4.9016 4.7916 4.6501 4.5181 4.0869 5.2121 5.1897 5.0999 4.9016 4.7916 4.6501 4.5181 5.0899 4.9016 4.7916 4.6501 4.9191 5.0999 4.9016 4.7916 4.7917 4.7817 4.7817 4.7817 4.7817 4.7821 4.7917 4.7827 4.7828 5.1100 4.7916 8.4320 6.1090 4.7917 7.7242 7.7101 7.7827 7.5132 7.7101<	or Payments	ct 199	199	19	-	-	-				Oct 2002
1.6916 1.6826 1.7588 1.6916 1.5904 1.5498 1.5081 1.4634 1.5498 1.5686 2.17884 2.1886 2.1868 2.1868 2.2927 2.2286 2.1886 3.5654 3.1196 3.1867 3.1867 3.1867 3.1867 3.1867 3.1867 3.1867 3.1867 3.1869 3.18190 2.2286 2.2286 2.2286 2.2286 2.2286 2.2867 2.2868 2.1867 3.18190 3.1123 3.18190 3.1123 3.18190 3.1123 3.18190 3.1123 3.18190 3.1123 3.18190 3.1123 3.18190	1	.961	.929	&	.862	.831	.805		•	•	•
2.7884 2.5899 2.4989 2.4215 2.3256 2.2227 2.22286 2.1625 2.0004 4.4615 4.2519 4.2633 4.0487 3.9266 3.0096 2.9277 2.22286 2.1625 2.917 2.1712 3.05604 4.0016 4.7515 4.0016 4.0016 4.0016 4.0016 4.0016 4.0017 4.0016 4.0017 4.0017 4.0016 4.0017 4.0016 4.0017 4.0016 4.0017 4.0016 4.0017 4.0017 4.0016 4.0017 4.0017 4.0017 4.0017 4.0016 4.0017 4.0017 4.0016 4.0017 4.0017 4.0016 4.0017 4.0017 4.0017 4.0017 4.0016 4.0017 4.0017 4.0016 4.0017 4.0016 4.0017 4.0017 4.0016 4.0017 4.0016 4.0017 4.0016 4.0016 4.0017 4.0016 4.0017 4.0016 4.0017 4.0016 4.0017 4.0016 4.0017 4.0016 4.0017 4.0016 4.0017 <td>8</td> <td>.891</td> <td>.826</td> <td>•</td> <td>•</td> <td>•</td> <td>. 59</td> <td>•</td> <td>•</td> <td>•</td> <td>•</td>	8	.891	.826	•	•	•	. 59	•	•	•	•
3.6504 3.5196 3.3957 3.2835 3.1867 3.0986 3.0132 2.9277 2.8417 2.74415 4.44815 4.3554 4.0487 3.2926 3.8190 3.7123 3.6669 3.5501 3.5457 4.666 4.5516 4.5501 4.5501 4.5501 4.5501 4.5501 5.316 5.3457 5.100 6.0802 6.5167 6.7536 6.7536 6.701 7.701 6.0802 6.5167 6.7536 7.701 6.0802 6.5107 6.7536	m	. 788	.688	•	•	•	.35	•	•	•	•
5.2873 5.1100 4.9455 4.0487 3.9296 3.8190 3.7123 3.6669 3.5001 3.5001 5.2873 5.1100 4.9455 4.7916 4.6501 4.5181 4.3915 4.2653 4.1364 4.0 6.0371 5.8772 5.6884 5.5112 6.0895 6.4900 4.7515 5.3457 5.4049 4.9016 4.7516 4.0 7.5800 7.386 7.1080 6.8904 6.6868 6.4920 6.3013 6.1109 5.2929 5.7 8.9906 8.7170 8.4456 8.1851 7.7017 6.732 6.6861 6.470 7.7822 7.7017 6.73 10.377 7.7282 7.701 6.8956 6.6861 6.470 7.7822 7.73 7.782 7.73 7.782 7.73 7.782 7.73 7.782 7.73 7.782 7.73 7.782 7.73 7.782 7.73 7.782 7.73 7.782 7.73 7.782 7.73 7.78 7.73	4	.650	.519	•	•	•	9	•	•	•	•
5.2873 5.1100 4.9455 4.7916 4.5181 4.3915 4.2016 4.7315 4.0 6.0779 5.88752 5.6884 5.5121 5.3492 5.1973 5.0499 4.9016 4.7315 4.6 6.0371 5.6884 6.2122 6.6288 5.1973 5.0499 4.9016 4.7315 5.3457 5.489 5.2107 5.3457 5.489 5.2107 5.3457 5.2499 5.9109 5.9209 5.73 7.0170 6.7895 6.2016 6.788 5.2107 5.2490 5.9209 5.73 7.0171 6.8955 6.6861 6.4780 6.2366 6.4890 6.288 6.288 6.2895 6.686 6.2895 6.6861 6.2895 6.6861 6.2895 6.6861 6.2896 6.6864 6.2895 6.6861 6.788 7.329 7.1701 6.8956 9.648 9.775 7.7713 7.4707 7.2432 7.0170 6.788 9.2869 9.648 9.775 9.7869 9.7664 9.7764 8.8336	ហ	.481	.325	•	•	•	.81	•	•	•	•
6,0719 5,8752 5,6884 5,5121 5,3492 5,1973 5,0499 4,9016 4,7515 4,6 7,5807 7,3886 7,1080 6,6886 6,6286 6,4867 6,109 5,3457 5,1457 5,1457 5,1457 5,1457 5,1457 5,1457 5,1467 5,209 5,7013 6,1109 6,2702 6,7866 6,2013 6,1109 5,9209 5,7010 6,786 6,2013 6,1109 6,2700 6,7700 6,7478 6,7100 6,7700 6,7478 6,2700 6,7700 7,7470 7,2432 7,0170 6,7700 7,2432 7,0170 6,7582 10,2586 10,6664 9,6648 9,3726 9,0883 8,6648 9,1266 9,0883 8,6648 9,1266 9,0883 8,6648 9,1266 9,0883 8,6648 9,1266 9,0883 8,6648 9,1266 8,0983 8,6648 9,1266 9,0883 8,6648 9,1266 9,0883 8,6648 9,1266 9,0883 8,6648 9,1266 9,0883	9	7	110			4.6501	4.5181				
6.6181 6.6181 6.4089 6.2112 6.0285 5.857 5.6662 5.164 5.3457 5.1 7.5800 7.3386 7.1080 6.8868 6.4920 6.3013 6.1109 5.9209 5.7 8.9306 8.7170 6.6881 7.7013 7.4707 7.2432 7.0170 6.4780 6.27920 9.2920	-	0	.875	•	•	5.3492	5.1973	•	•	•	•
7.5800 7.3386 7.1080 6.8904 6.6868 6.4920 6.3013 6.1109 5.9209 5.7 8.3005 8.0377 7.7812 7.5488 7.3231 7.1071 6.8955 6.6861 6.4780 6.29 8.3005 8.1077 7.7822 7.585 7.385	· œ	8	.618	•	•	6.0285	5.8557	•	•	•	•
8.3005 8.0377 7.7872 7.5488 7.3231 7.1071 6.8955 6.6861 6.4780 6.2369 8.9996 8.7170 8.4456 8.1851 7.9382 7.7013 7.4707 7.2432 7.0170 6.7310 9.6788 9.3753 9.0819 8.8002 8.5324 8.2765 8.0278 7.7822 7.5385 7.3 10.3372 10.0116 9.6870 9.6848 9.3766 9.6869 8.5669 8.5669 8.0337 8.0430 7.7 11.5866 11.2209 10.8664 10.5268 10.2038 9.8941 9.5928 9.2963 9.0034 8.7 12.1828 11.7961 11.4235 11.0658 10.7252 10.3867 10.5532 9.2963 9.0034 8.7 12.1829 12.5892 11.6258 10.7252 10.3867 10.6586 9.4604 9.1 13.5841 12.5872 11.2297 10.3867 10.6867 10.7352 10.7466 10.7467 10.7466 10.7	6	ູເ	.338	•	•	•	6.4920	•	•	•	•
8.9996 8.7170 8.4456 8.1851 7.9382 7.7013 7.4707 7.2432 7.0170 6.7386 7.3856 7.3856 7.3856 7.3856 7.3856 7.3856 7.3856 7.3856 7.3856 7.3856 7.3856 7.3856 7.7822 7.5385 7.7822 7.5385 7.7822 7.5385 7.7822 7.5385 7.7822 7.5385 7.7822 7.5385 7.7822<	10	T.	.037	•	•	•	.107	•	•	•	.27
9.6788 9.3753 9.0819 8.8002 8.5324 8.2765 8.0278 7.7822 7.5385 7.3 10.3372 10.0116 9.6970 9.3944 9.1076 8.8336 8.2669 8.6331 8.0037 8.0307 7.7 10.9737 10.0116 9.6964 10.2568 10.2038 9.0894 9.0883 8.08082 8.5313 8.7 11.5886 11.2209 10.8664 10.5268 10.2038 9.8941 9.5928 9.2963 9.0304 8.7 12.1828 11.7961 11.4235 11.0658 10.7252 10.3986 10.0809 9.7686 9.4604 9.1 12.7580 12.8923 12.4840 12.0917 11.3590 11.0102 10.2256 9.9024 9.5964 13.4376 12.9885 12.5799 12.1901 11.8798 11.5088 11.4336 10.4404 9.10.44 14.801 14.4064 13.5691 13.5691 13.6982 13.6934 12.5934 11.5088 11.5088		999	.717		٦.		.701	•		۰.	
10.3372 10.0116 9.6970 9.3944 9.1076 8.8336 8.5669 8.3037 8.0430 7.7 10.935 10.6267 10.2912 9.9696 9.6648 9.3726 9.0883 8.8082 8.5311 8.2 11.5886 11.2209 10.8664 10.5268 10.7252 10.3986 10.0809 9.7686 9.4604 9.1 12.182 11.2209 11.0658 10.7252 10.3986 10.02532 10.2265 9.9024 9.5 12.183 12.9885 12.0917 11.8160 11.0102 10.6676 10.3300 10.0 13.3541 12.9885 12.5799 12.1901 11.8160 11.4526 10.7436 10.4 14.8801 14.4064 13.0489 13.5521 12.6471 12.2580 11.8798 11.1436 10.7 15.3862 14.4064 13.9489 13.5091 13.6992 12.6934 11.9068 11.1436 10.7 15.3862 14.8766 14.4059 13.9511		.678	.375	•	•	•	.276	•	•	ស	•
10.9735 10.6267 10.2912 9.9696 9.6648 9.3726 9.0883 8.8082 8.5311 8.2 11.5886 11.2209 10.8664 10.2568 10.2038 9.8941 9.5928 9.2963 9.0344 8.7 12.1828 11.7209 10.0102 10.0867 10.256 9.9024 9.1 12.1828 11.7961 11.4235 11.0658 10.7252 10.0867 10.2256 9.9024 9.1 12.7580 12.3437 12.987 11.2297 10.8867 10.6676 10.3300 10.0 13.3151 12.8923 12.4840 12.0917 11.7179 11.3509 11.4522 10.0676 10.3300 10.0 13.3162 13.9182 13.0521 12.6471 12.2580 11.5088 11.1436 10.7 14.3862 14.4064 13.9489 13.5091 13.0992 12.6934 12.2958 11.1436 10.7 15.3682 14.4064 13.9489 13.507 13.0992 12.6934		0.337	0.011	•	•	•	.833	•	•	0	•
11.5886 11.2209 10.8664 10.5268 10.2038 9.8941 9.5928 9.2963 9.0034 8.7 12.1828 11.7961 11.4235 11.0658 10.7252 10.3986 10.0809 9.7686 9.4604 9.1 12.7580 12.3533 11.9625 11.2297 10.8867 10.5532 10.2256 9.9024 9.51 13.3151 12.8923 12.4840 12.0917 11.7179 11.3590 11.0102 10.6676 10.3300 10.0 13.8541 13.4137 12.9885 12.5799 12.1901 11.8160 11.4522 11.0952 10.7436 10.0 14.3756 13.9182 13.0521 12.6471 12.2580 11.8798 11.1436 10.7436 10		0.973	0.626	0	•	•	.372	•	•	S.	•
12.1828 11.7961 11.4235 11.0658 10.7252 10.3986 10.0809 9.7686 9.4604 9.5 12.7580 12.3533 11.9625 11.5872 11.2297 10.8867 10.5532 10.2256 9.9024 9.5 13.3151 12.8923 12.4840 12.0917 11.7179 11.3590 11.0102 10.6676 10.3300 10.0 13.3151 12.8923 12.20917 11.7179 11.3590 11.0102 10.6676 10.3300 10.0 13.8541 13.4137 12.5799 12.1901 11.8160 11.8798 11.1436 10.7 14.3756 13.0521 12.6471 12.2580 11.8798 11.1436 10.7 15.3622 14.8799 13.5911 13.692 12.6856 12.2934 11.9049 11.1436 15.3623 14.8792 13.9303 13.4992 12.6934 12.2958 11.9049 11.536 16.2052 14.8479 14.7923 14.7173 14.2606 13.4948		1.588	1.220	ö	ö	ċ	.894	•	•	•	•
12.7580 12.3533 11.9625 11.5872 11.2297 10.8867 10.5532 10.2256 9.9024 9.5 13.3151 12.8923 12.4840 12.0917 11.7179 11.3590 11.0102 10.6676 10.3300 10.0 13.8541 13.4137 12.9885 12.5799 12.1901 11.8160 11.4522 11.0952 10.7436 10.4 14.3756 13.9182 13.5091 13.0892 12.580 11.9088 11.1436 10.7 15.3682 14.4064 13.9489 13.5091 13.0992 12.6934 12.2958 11.1436 10.7 15.3682 14.4059 13.9511 13.5167 13.0992 12.6934 12.2958 11.9049 11.5 16.2975 15.3777 15.2755 14.7923 14.3862 13.4548 13.0322 12.2570 11.8 16.7395 16.2052 15.6891 15.1923 14.7173 14.2606 13.8168 13.3824 12.9557 12.557 16.7396	16	2.182	1.796		~			0	.768		9.1595
13.3151 12.8923 12.4840 12.0917 11.7179 11.3590 11.0102 10.6676 10.3300 10.0 13.8541 13.4137 12.9885 12.5799 12.1901 11.8160 11.4522 11.0952 10.7436 10.4 14.3756 13.9182 13.0521 12.6471 12.2580 11.8798 11.1436 10.7 14.8801 14.4064 13.9489 13.5091 13.0892 12.6856 12.2934 11.9088 11.1436 10.7 15.3682 14.8786 14.4059 13.9511 13.5167 13.0992 12.6934 12.2958 11.9049 11.5 16.2975 15.3777 15.2755 14.7923 14.3303 13.4862 13.4548 13.0322 12.6172 12.2 16.2975 15.7777 15.1923 14.7173 14.2606 13.8168 13.3824 12.9557 12.5 16.7395 19.1466 18.5358 17.9502 17.3862 16.3038 15.7799 15.2 20.4366	17	2.758	2.353	ä	~	_	ö	0	.225	•	9.5871
13.8541 13.4137 12.9885 12.5799 12.1901 11.8160 11.4522 11.0952 10.7436 10.4 14.3756 13.9182 13.0521 12.6471 12.2580 11.8798 11.136 10.74 14.3756 13.9182 13.5091 13.0892 12.6856 12.2934 11.9088 11.1436 10.7 15.362 14.4059 13.9511 13.0892 12.6934 12.2958 11.9049 11.8 15.362 14.4059 14.3787 13.9303 13.4992 13.0804 12.2958 11.9049 11.8 16.7395 15.275 14.7387 13.9303 13.8862 13.4548 13.0322 12.6770 12.2670 11.2 16.7395 16.2052 15.6891 15.1923 14.7173 14.2606 13.8168 13.3824 12.9557 12.2 12.2 12.2 13.2 12.2 12.2 12.2 12.2 12.2 12.2 12.2 12.2 12.2 12.2 13.2 12.2 12.	18	3.315	2.892	ีเ	N	_	÷.	_	.667	•	10.0007
14.3756 13.9182 13.4766 13.0521 12.6471 12.2580 11.8798 11.5088 11.1436 10.7 14.8801 14.4064 13.9489 13.5091 13.0892 12.6856 12.2934 11.9088 11.5306 11.1 15.3682 14.8786 14.4059 13.9511 13.5167 13.0992 12.6934 12.2958 11.9049 11.5 15.8405 15.3356 14.8479 14.3787 13.9303 13.4992 13.0804 12.2958 11.9049 11.5 16.2975 15.7777 15.2755 14.7923 14.3303 13.8862 13.4548 13.0322 12.6172 12.2 16.7395 16.2052 15.6891 15.1923 14.7173 14.2606 13.8168 13.3824 12.9557 12.5 20.4366 19.7466 18.5358 17.9502 17.3862 16.8387 16.3038 15.7799 15.2 21.8677 21.1641 20.4841 19.8287 19.2000 18.5945 18.9928 18.3861 17.7930 17.7930 17.7930 24.0960 23.33182 22.5664 21.8417 21.1460 20.4757 19.8253 19.1909 18.799	19	3.854	3.413	6	N	1	÷.	_	.095	•	10.4007
1 14.8801 14.4064 13.9489 13.5091 13.0892 12.6934 11.9088 11.5306 11.15306 11.15306 11.5306 11.5306 11.5306 11.5306 11.5306 11.5049 11.5306 11.5049 11.5049 11.5049 11.5049 11.5049 11.5049 11.5049 11.5049 11.5049 11.5049 11.5049 12.2958 11.9049 11.5049 11.5049 12.2975 14.3787 13.9303 13.4592 13.0804 12.6701 12.2670 11.8 16.2975 15.7777 15.2755 14.7923 14.3303 13.4568 13.4548 13.0322 12.6172 12.5 16.7395 16.7395 17.0044 16.4698 15.9551 15.4552 14.9663 14.4870 14.0 5 20.4366 19.1646 18.5358 17.9502 17.3862 16.3038 15.7799 15.2 5 21.8677 21.6132 20.9202 20.2552 19.6145 18.5945 18.3961 17.7930 17.79	20	4.375	3.918	ë	n	N	Ġ	-	. 508	•	·
2 15.3682 14.8786 14.4059 13.9511 13.5167 13.0992 12.6934 12.2958 11.9049 11.5 4 15.2405 14.8479 14.3787 13.9303 13.4992 13.0804 12.2958 11.9049 11.8 4 16.2975 15.2755 14.3787 13.9303 13.8862 13.4548 13.0322 12.6172 12.2 5 16.7395 16.2052 15.6891 15.1923 14.7173 14.2606 13.8168 13.3824 12.9557 12.5 0 18.7420 18.1423 17.0044 16.4698 15.9551 15.4552 14.4870 14.0 5 20.4366 19.7806 19.1466 18.5358 17.9502 17.3862 16.8337 16.3038 15.7799 15.2 5 20.4366 19.1646 18.5358 17.9502 17.3862 16.3038 15.7799 15.3 5 23.0760 22.3321 21.6132 20.9202 20.2552 19.6145 18.5923 </td <td></td> <td>4.880</td> <td>4.406</td> <td>3.948</td> <td>3.5</td> <td></td> <td>12.6856</td> <td>12</td> <td>1.90</td> <td></td> <td>.162</td>		4.880	4.406	3.948	3.5		12.6856	12	1.90		.162
3 15.8405 15.356 14.8479 14.3787 13.9303 13.4992 13.0804 12.6701 12.2670 11.8 4 16.2975 15.7777 15.2755 14.7923 14.3303 13.8862 13.4548 13.0322 12.6172 12.2 5 16.7395 15.6891 15.1923 14.7173 14.2606 13.8168 13.3824 12.9557 12.5 0 18.7420 18.1423 17.0044 16.4698 15.9551 15.4552 14.4870 14.0 5 20.4366 19.7806 19.1466 18.5358 17.9502 17.3862 16.8387 16.3038 15.7799 15.2 5 20.4366 19.1466 18.5358 17.9502 17.3862 16.8387 16.3038 15.7799 15.2 5 21.8677 21.6132 20.9202 20.2552 19.6145 18.9928 18.3861 17.7930 17.2 5 22.5664 21.8417 21.1460 20.4757 19.8253 19.1909 <td></td> <td>5.368</td> <td>4.878</td> <td>4.405</td> <td>3.9</td> <td>3.5</td> <td>C,</td> <td>12</td> <td>2.29</td> <td>•</td> <td>. 52</td>		5.368	4.878	4.405	3.9	3.5	C,	12	2.29	•	. 52
4 16.2975 15.275 14.7923 14.3303 13.8862 13.4548 13.0322 12.6172 12.2 5 16.7395 16.2052 15.6891 15.1923 14.7173 14.2606 13.8168 13.3824 12.9557 12.5 0 18.7420 18.1423 17.5627 17.0044 16.4698 15.9551 15.4552 14.9663 14.4870 14.0 5 20.4366 19.7806 19.1466 18.5358 17.9502 17.3862 16.8387 16.3038 15.7799 15.2 0 21.8677 21.1641 20.4841 19.8287 19.2000 18.5945 18.9928 18.3861 17.7930 17.2 5 23.0760 22.3321 21.6132 20.9202 20.2552 19.6145 18.9928 18.3861 17.7930 17.2 44.0960 23.3182 22.5664 21.8417 21.1460 20.4757 19.8253 19.1909 18.5709 17.9		5.840	5.335	4.847	4.3	3.9	n	13	2.67	•	.874
5 16.7395 16.2052 15.6891 15.1923 14.7173 14.2606 13.8168 13.3824 12.9557 12.5 0 18.7420 18.1423 17.0044 16.4698 15.9551 15.4552 14.9663 14.4870 14.0 5 20.4366 19.7806 19.1466 18.5358 17.9502 17.3862 16.8387 16.3038 15.7799 15.2 0 21.8677 21.1641 20.4841 19.8287 19.2000 18.5945 18.0067 17.4329 16.3779 16.3 5 23.0760 22.3321 21.6132 20.9202 20.2552 19.6145 18.9928 18.3861 17.7930 17.2 24.0960 23.3182 22.5664 21.8417 21.1460 20.4757 19.8253 19.1909 18.5709 17.9		6.297	5.777	5.275	4.7	4.3	G,	13	3.03	•	.212
0 18.7420 18.1423 17.5627 17.0044 16.4698 15.9551 15.4552 14.9663 14.4870 14.00 5 20.4366 19.7806 19.1466 18.5358 17.9502 17.3862 16.8387 16.3038 15.7799 15.2 0 21.8677 21.1641 20.4841 19.8287 19.2000 18.5945 18.0067 17.4329 16.8715 16.3 5 23.0760 22.3321 21.6132 20.9202 20.2552 19.6145 18.9928 18.3861 17.7930 17.2 0 24.0960 23.3182 22.5664 21.8417 21.1460 20.4757 19.8253 19.1909 18.5709 17.9		6.739	6.205	5.689	5.1	4.7	7	13	3.38	• 1	.540
5 20.4366 19.7806 19.1466 18.5358 17.9502 17.3862 16.8387 16.3038 15.7799 15.2 0 21.8677 21.1641 20.4841 19.8287 19.2000 18.5945 18.0067 17.4329 16.8715 16.3 5 23.0760 22.3321 21.6132 20.9202 20.2552 19.6145 18.9928 18.3861 17.7930 17.2 0 24.0960 23.3182 22.5664 21.8417 21.1460 20.4757 19.8253 19.1909 18.5709 17.9	30	8.742	8.142	۲.	7.0	4	5.95	5	96.	14.4870	14.0
0 21.8677 21.1641 20.4841 19.8287 19.2000 18.5945 18.0067 17.4329 16.8715 16.3 5 23.0760 22.3321 21.6132 20.9202 20.2552 19.6145 18.9928 18.3861 17.7930 17.2 0 24.0960 23.3182 22.5664 21.8417 21.1460 20.4757 19.8253 19.1909 18.5709 17.9	35	0.436	9.780	6	8.5	σ.	7.38	ė	.30	15.7799	15.2
5 23.0760 22.3321 21.6132 20.9202 20.2552 19.6145 18.9928 18.3861 17.7930 17.2 0 24.0960 23.3182 22.5664 21.8417 21.1460 20.4757 19.8253 19.1909 18.5709 17.9	40	1.867	1.164	ö	9.8	7	8.59	œ.	.43	16.8715	16.3
0 24.0960 23.3182 22.5664 21.8417 21.1460 20.4757 19.8253 19.1909 18.5709 17.9	45	3.076	2.332	÷	9.0	7	9.61	œ.	.38	•	17.2
	20	4.096	3.318	ď	1.8	1.1	0.47	Ġ	. 19	œ.	17.9

Notes:

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum of Agreement on Criteria/Standards for EA/LCC for MILCON Design.
Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes for Industrial Sector (NIST Annual Supplement to Handbook 135, Oct 1992).

ENERGY STUDIES: U.S. AVERAGE

Table E-3-D0-5. Present Worth Factors--Distillate Oil

Number				Be	eneficial O	Occupancy D	Date			
Payments	Oct 1993	Oct 1994	Oct 1995	Oct 1996	Oct 1997	Oct 1998	Oct 1999	Oct 2000	Oct 2001	Oct 2002
П	.969	.955	.947	6,	.945	.945	6.	.941	.931	.918
7	1.9248	1.9025	1.8935	1.8923	1.8916	9	1.8872	73	1.8499	1.8202
က	.872	.848	.839	æ	.837	.832	æ	.791	.751	.704
4	.818	. 794	.785		.778	.764		.693	.636	.569
ស	.764	.740	.730		.710	. 682	9	.577	. 501	.414
9	.710	9.	.672		.62	.584	.523	.442	٦.	.240
7	.655	9	.603	•	.53	.468	.388	.287		.046
ω	7.5972	7.5593	7.5222	7.4770	7.4148	n	3	7.1131	6.9781	6.8326
6	.528	4.	.424	•	.28	.179	.058	.919		. 599
10	.447	e.	.308	9.2263	.12	.004	.865	. 705	r.	.349
	0.349	0.263	o	0.071	6.	.811	θ.	.47	.281	.084
	1.233	1.128	ä	0.896		0.597	4.	0.22	0.015	.802
13	12.0983	11.9740	11.8440	11.7032	11.5430	11.3639	11.1686	10.9570	3	ö
	2.943	2.799	ä	2.489	ų.	2.114	σ.	1.67	1.435	90
	3.768	3.605	'n	3.256	•	2.848	œ.	2.37	2.122	1.861
16	4.575	4.391	4.20		3.794	3.56	3.3	3.063	2.792	2.515
17	5.361	5.158	4.95	4.740	4.512	4.26	4.0	3.734	3.447	3.153
18	16.1281	15.9090	15.6879	ທ	15.2146	14.9550	•	14.3887	90	13.7744
19	6.878	6.643	6.40	6.16	5.900	5.62	5.3	5.026	4.706	4.379
20	7.612	7.361	7.10	6.847	6.571	6.28	5.9	5.647	5.310	4.968
	8.330	8	7.7	.51	.226	6.917	5	7	.899	5.541
22	19.0329	.749	18.4652	18.1725	7.86	17.5389	17.1981	16.8413	6.4	16.0993
	9.719	ö	9.1	8.81	8.484	8.143	۲.	7.4	.030	6.640
	0.390	ö	9.7	9.43	9.089	8.732	e.	٠.	.572	7.165
	1.044	0	0.3	0.03	9.678	9.306	6	8.5	.097	7.674
30	4.070	3.658	3	2.8	2.384	1.930	1.4	0.97	4.	.981
35	6.695	6.202	'n	5.2	4.692	4.163	3.6	3.06	ū	.935
40	28.9278	28.3619	27.7969	27.2273	9	26.0534	25.4492	.83	24.2120	23.5895
45	0.817	0.189	ö	8.9	8.299	7.652	6.9	6.33	9.	.989
20	2.417	1.736	÷	0.3	9.699	900.6	8.3	7.59	œ	.174

Notes:

<1> Data Based on Assumed DOS of Apr 1993. Authorized Period of Use of Table is Oct 1992 through Sep 1993. <2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum of Agreement on Criteria/Standards for EA/LCC for MILCON Design. Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes for Industrial Sector (NIST Annual Supplement to Handbook 135, Oct 1992).

Table E-3-RO-5. Present Worth Factors--Residual Oil

Taguinu										
B Oct	t 1993	Oct 1994	Oct 1995	Oct 1996	Oct 1997	Oct 1998	Oct 1999	Oct 2000	Oct 2001	Oct 2002
_	.003	.031		약	.081		•	1.1193	1.1175	1.1107
	.034	.082	•	2.1478	2.1785	2.2077	2.2304	.236	2.2282	. 208
	.086	.148	•	4	.289	•	۳.	.347	3.3262	.291
	.152	.230	•	e.	.408	•	۷.	.445	4.4087	. 355
	5.2343	5.3270	5.4072	5.4748	. 526	5.5552	<u>ت</u>	.527	5.4730	.399
_	330	4			9.	6.6532	.639	6.5923	•	6.4231
	442	Ľ	•	•		7.7357	.703	7.6363	•	•
	195	9		•	ထ	8.8000	8.7474	8.6599	8.5438	8.4083
	678	, ר		9.8835	œ	9.8440	•	9.6631	9.5258	•
	0	10.8836	10.9351		σ.	10.8676	.774	10.6451	10.4865	10.3092
-	1.887	996.	6.		1.94	H	. 7	11.6058	11.4267	٠ ٠ i,
_	2.969	.030	3.0	m	.952	ä	2.717	2.54	•	.128
	4.034	.074	4	14.0187	3.934	13.8135	3.657	3.46	13.2462	3.0
_	5.078	.098	5.0		.89	4	4.577	4.36	•	.868
_	9	16.1013	0	'n	5.835	'n.	5.476	5.24	4	4.708
-	7.105	7.083	-	ı vo	6.75	16.5732	6.356	.105	ω.	.528
_	8.087	8.044		_	7.65	~	.216	.945	o.	6.327
-	9.047	8.984	ω.	œ	8	18.3129	8.05	17.7655	17.4450	7.10
_	9.988	9.904	σ.	σ	9.39	ס	.876	. 564	ņ	.863
- 7	0	20.8037	20.6524	20.4607	.23	0 1	9.675	.342	٠, ا	8.601
<u> </u>	1.807	1.683	1.512		-	o	0.453	0.100	9.718	9.319
	2.687	2.543	2,352	N	•	21.5502	21.2114	•	4.	~
	3.547	3.383	3.172	CA	ď	Ŕ	1.949	1.556	1.135	0.696
	4.387	4.203	3.971	m	m,	23.0459	2.667	2.255	1.814	1.354
	25.2074	25.0024	24.7496	24.4558	24.1278	3.764	3.366	2.933	2.471	1.991
`	0	693	l &	7.946	חו וו	7.0	6.5	<u> </u>	-	24.8827
		088	, -	0.934	•	8.6	9.2	9	n	
, ,,	35.0843	34.5861	34.0442	33.4656	32.8572	32.2178	31.5492	30.8520	30.1331	
	7.4	876	9	5.607	ന	4.2	3.4		m	
	. 0	814	ά	7.421	w	5.9	5.1	ı.	•	
_		1	,		,					

Notes:

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum
of Agreement on Criteria/Standards for EA/LCC for MILCON Design.
Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes for Industrial Sector (NIST Annual Supplement to Handbook 135, Oct 1992).

ENERGY STUDIES: U.S. AVERAGE

Table E-3-NG-5. Present Worth Factors -- Natural Gas

Number				Be	eneficial O	Occupancy D	Date			
ot Payments	Oct 1993	Oct 1994	oct 1995	Oct 1996	Oct 1997	Oct 1998	Oct 1999	Oct 2000	Oct 2001	Oct 2002
F	.991	.979	968	6.	6.	.957	.97	ο.	6.	.997
2	97	9	1.9229	1.9052	1.9083	1.9290	1.9517	1.9709	88	1.9969
m	939	.902	.873	ω.	æ	.909	.94	o.	2.9871	.995
4	.894	.852	.831	æ	æ	.899	.93	ď.	.985	.988
ស	.844	.810	.802	æ	æ	.897	• 93	σ.	.978	.971
9	802	.781	5.7830	5.8051	.848	.896	.937	.959	.961	.947
	773	.762		.802	.847	.895	.930	.942	.937	.920
- cc	754	752		.801	.845	.888	.913	.917	.911	.898
) o	744	.750	~	Θ		8.8714	8.8891	8.8918	8.8890	8.8672
10	9.7423	9.7495		. 793	.821	.846	.862	.869	.857	.815
	0.741	.748	10.7616	10.7766	0.797	0.820	0.840	.838	0.805	0.742
	1.739	741	.744	1.7	1.771	1.798	1.809	.785	1.732	1.649
	2.73	.724	_	12.7260	7	7	12.7571	12.7133	12.6396	12.5361
	3.716	.699	.694	3.7	3.717	3.714	3.684	.620	3.526	3.403
15	691	9	.672	4.6	4.665	4.642	4.591	. 507	4.393	4.250
		;	3	200	203	6 6 40	077	777	240	5.076
16	5.665	5.65	. 540	5.620	2,072	7.0.0	0.4	*	7.0	0.0
17	6.643	6.61	. 588	6.547	6.499	6.436	6.345	5.221	6.067	5.882
18	17.6117	17.5677	17.5156	17.4544	17.3865	17.3029	17.1923	17.0478	16.8725	16.6666
19	8.559	8.49	.422	8.341	8.253	8.150	8.018	7.853	7.656	7.430
20	9.486	9.40	.309	9.208	9.100	8.976	8.824	8.637	8.420	8.174
	0.393	0.288		0.05	9.927	19.7821	9.608	9.401	9.164	.898
	1.280	1.155	.023	0.88	0.73	.566	37	20.1455	ø	6
	2.147	2.002	1.850	1.68	1.517	ω.	1.116	0.869	0.593	.286
	2.994	2.829	2.655	2.47	2.280	.074	1.840	1.574	1.277	0.949
25	23.8213	23.6348	23.4399	23.2357	24	22.7987	2.545	2.257	1.940	1.592
UŁ	7.643	7.355	7.060		6.442	[]	5.758	5.3	4.952	4.506
, c	מבס כ	268	171		9.357	8	8.485	8.0	7.503	6.974
6.4	3,73	3.29	32.8099	32.3186			7	7		
4.5	6,165	5.604	5.042		3.913	3.3	2.748	2.1	1.491	0.831
200	.185	559	6.932	36.3063	5.682	S.	4.402	3.7	3.038	2.328

Notes:

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum of Agreement on Criteria/Standards for EA/LCC for MILCON Design.
Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes for Industrial Sector (NIST Annual Supplement to Handbook 135, Oct 1992).

Table E-3-SC-5. Present Worth Factors--Steam Coal

1993 Oct 1994 Oct 1995 Oct 1997 Oct 1999 Oct 2000 Oct 1289 1.6314 1.7763 1.7299 1.6340 1.6585 1.6188 1.6188 1.6188 1.6188 1.6188 1.6188 1.6188 1.7763 1.7299 1.6940 1.6585 1.6188 1.6188 1.6188 1.6188 1.6184 1.7763 1.7763 1.7299 1.6940 1.6585 1.6188 1.6188 1.6188 1.6184 1.7763 1.7763 1.7299 1.6340 1.6585 1.6188 1.61	٦										
0.9762 0.9527 0.9296 0.9017 0.8754 0.8387 0.8198 1.0518<	ents	199	ct 199	ct 199	-	i .				Oct 2001	Oct 2002
1.9289 1.8824 1.8314 1.7763 1.7299 1.6540 1.6585 1.6188 1.6188 1.6188 1.6188 1.6188 1.6188 1.6188 1.6188 1.6188 1.6188 1.6188 1.6189 1.6189 1.7603 2.5685 2.5138 2.4574 2.3973 2.3985 3.3188 3.2366 3.5189 3.5188<		976	.952			۳.	•	.83	.819		0.7786
2.8586 2.7841 2.7059 2.6116 2.5685 2.5138 2.4574 2.3973 2.3128 3.2360 3.1588<	• 0	800	882		•		•	• 65	.618		.537
3.7603 3.6566 3.5613 3.4703 3.3883 3.3128 3.2360 3.1558 4.6272 4.6272 5.1750 7.5557 7.3687 7.1957 7.0317 4.6272 5.3402<	۰ ۸	מת	, ר	, ,	•	ຜ	•	.45	.397	G.	.279
4,6348 4,5140 4,3999 4,2901 4,1873 4,0913 3.9945 3.8985 3.8985 3.8985 3.8985 3.8985 3.8985 3.8985 3.8985 3.8985 3.8988 4,5140 4,5140 4,6272 4 6,3288 6,1725 6,0187 5,8676 5,7244 5,5925 5,4658 5,3402 5.3402	n •	760		,	•	T,	•	.23	.155		.008
6 5.4902 5.3527 5.2197 5.0890 4.9659 4.8498 4.7371 4.6272 4.658 5.3468 5.3468 5.3468 5.3468 5.3468 5.3468 5.3468 5.3468 5.3468 5.3468 5.3402 5.3468 6.3713 6.0377 5.660 6.3213 6.037 5.660 7.342 6.8763 6.7213 6.037 5.660 7.342 6.8763 6.7213 6.037 7.968 7.7317 7.5600 7.3912 7.3 1 9.4846 9.2511 9.0271 8.8105 8.6062 8.4153 8.2288 8.0462 7.3317 7.5600 7.3912 7.3 1 10.2573 9.7401 9.5079 7.7317 7.5600 7.3312 7. 1 10.2563 11.2303 11.1212 10.1916 9.5879 9.7462 9.5241 9.3084 9.3084 9.3084 9.3084 9.3084 9.3084 9.3084 9.3084 9.3084 9.3084 9.3084 9.3084 9.3084 <td>* LG</td> <td>.634</td> <td></td> <td></td> <td>•</td> <td>Τ.</td> <td>•</td> <td>.99</td> <td>.898</td> <td>.807</td> <td>.721</td>	* LG	.634			•	Τ.	•	.99	.898	.807	.721
6.3288 6.1725 6.0187 5.8676 5.7244 5.5925 5.4658 5.3402 5.3412 5.721 5.721 7.3912 7. 5.000 7.3912 7. 5.000 7.3912 7. 5.000 7.3912 7. 5.000 7.3912 7. 5.000 7.3912 7. 5.000 7.3912 7. 5.000 7.3912 7. 5.000 7.3912 7. 5.000 7.3912 7. 5.000 7.3912 7. 5.000 7.3912 7. 5.000 7.3912 7. 5.000 7.3912 7. 5.000 7.3912 7. 7. 7. 7.000		8	"		19	96	8	.737		.520	.418
7.1466 6.97172 6.6261 6.4670 6.3312 6.1789 6.0377 5.71466 9.4846 9.2511 9.0271 8.8105 8.6062 8.4153 8.2298 8.0462 7.7317 7.5600 7.3912 7.7317 7.5600 7.3912 7.7317 7.5600 7.3912 7.7317 7.5600 7.3912 7.7317 7.5600 7.3912 7.7317 7.5600 7.3912 7.7317 7.5600 7.3912 7.7317 7.5600 7.3912 7.7317 7.5600 7.3912 7.7317 7.5600 7.3912 7.7317 7.7317 7.5600 7.3912 7.7317 7.5600 7.3912 7.7317 7.7317 7.7317 7.7317 7.7317 7.7317 7.7317 7.7317 7.7327 7.7347 <td>0 1</td> <td>, ,</td> <td>•</td> <td>•</td> <td>α</td> <td>7</td> <td>,</td> <td>.465</td> <td>•</td> <td>.217</td> <td>.102</td>	0 1	, ,	•	•	α	7	,	.465	•	.217	.102
6 7.1567 7.3687 7.1957 7.0342 6.8763 6.7213 6. 8 7.261 8.5085 8.2284 8.0974 7.9088 7.7317 7.5600 7.3312 7 1 9.4846 9.2511 9.0271 8.8105 8.6062 8.4153 8.2298 8.0462 7 1 10.2273 9.9798 10.4376 10.1816 9.9597 9.7402 9.5289 9.0852 8.8488 8.6655 8 1 10.9560 10.4376 10.1817 10.3792 10.1480 9.9183 9.9184 9.6955 10.5421 9.9184 8.6655 8 9.9184 8.6655 8 9.9184 9.6955 9.9184 9.6955 9.9184 9		320	- 0	•		46		178	•	•	5.7724
6 8.7261 8.5085 8.2984 8.0974 7.9088 7.7317 7.5600 7.3912 7.5600 1 9,4846 9.2511 9.0271 8.8105 8.6062 8.4153 8.2298 8.0855 8. 2 10,2560 10.6929 10.4376 10.1916 9.5897 9.7402 9.5241 9.3094 4 11,6690 11.3903 11.1212 10.8614 10.6147 10.3795 10.1480 9.9183 9.9183 5 12.3665 12.0740 11.7911 11.5165 11.5540 10.5125 10.1480 9.9183 9.9183 6 13.0501 12.7486 12.7486 12.2665 11.3512 11.0925 10.5125 7 13.7200 13.3885 13.0814 12.7486 12.2465 12.2065 11.3512 11.6586 11. 8 14.6620 14.3182 13.9828 13.6611 12.362 13.2497 11.6588 13.2763 12.210 16.0447 14.62	o c	041.	, ,	•		19	9	.876	•	.571	.427
9,4846 9,2511 9,0271 8,8105 8,6062 8,4153 8,2298 8,0852 8,8848 8,6855 8,0942 10,2273 9,2998 9,2898 9,0852 8,8848 8,6855 8,6855 8,8848 8,6855 8,9991 9,2899 10,2740 10,1916 9,2897 9,7402 9,5241 9,9183 9,9183 11,1212 10,6814 10,61747 10,3795 10,1480 9,9183 <t< td=""><td>ט ס</td><td>.726</td><td>· 10</td><td>• •</td><td></td><td>96.</td><td></td><td>.560</td><td>•</td><td>•</td><td>990.</td></t<>	ט ס	.726	· 10	• •		96.		.560	•	•	990.
10.2273 9.7401 9.5079 9.2898 9.0852 8.8848 8.6855 8. 10.2273 9.9780 9.7401 9.5079 9.2897 9.0852 8.8848 8.6855 8. 10.9560 10.6929 10.4376 10.1916 9.9597 9.7402 9.5241 9.3094 9. 11.6690 11.3903 11.1212 10.8614 10.6147 10.3795 10.1480 9.9183 9. 13.3665 12.0740 11.7911 11.5165 11.2540 11.0034 10.7569 10.5125 10. 13.7200 13.3988 13.0854 12.7796 12.4868 12.2065 11.9312 11.0925 10. 14.3750 14.3182 13.3885 13.0811 12.7865 12.4966 12.7501 12. 15.0143 14.6520 14.9124 14.5628 14.271 13.9650 13.5888 13.763 12. 15.6382 15.613 14.271 13.9650 13.5888 13.763 12.750 14.291		404	120	700	018	606			.046	7.8657	.690
10.9560 10.6929 10.4376 10.1916 9.9597 9.7402 9.5241 9.3094 9.5183 11.6690 11.3903 11.1212 10.8614 10.6147 10.3795 10.1480 9.9183 9.5183 12.3665 12.0740 11.7911 11.5165 11.2540 11.0034 10.7569 10.7569 10.5125 10.5125 10.5125 10.5125 12.3665 12.0740 13.7093 13.9885 13.0811 12.7865 12.2065 11.9312 11.6586 11.5150 13.7093 13.9885 13.0811 12.7865 12.4972 12.2110 11.5150 13.3885 13.0811 12.7865 13.0496 12.7501 12.510 11.51210 11.6123 13.9828 13.0811 12.7865 13.0496 12.7501 1	ન લ	404.0	0.00	740	507	2		•	.685	•	.299
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13.0501 12.7438 12.4461 12.1557 11.8779 11.6123 11.3512 11.0925 10.9312 13.7200 13.3988 13.0854 12.7796 12.4868 12.2065 11.9312 11.6586 11.15.686 14.3750 14.0381 13.3885 13.0811 12.7865 12.4972 12.2110 11. 15.0143 14.6620 14.3182 13.9828 13.6611 13.3526 13.0496 12.7501 12.2110 11. 15.0382 15.2709 14.9124 14.5628 14.2771 13.9050 13.5888 13.2763 12. 16.8414 16.0585 15.6813 15.3187 14.9441 14.1150 13.7899 13. 17.4213 17.0112 16.6109 16.2204 15.8449 15.4839 15.1297 14.7802 14. 17.9874 17.5636 17.1500 16.7466 16.3584 15.6189 15.2576 14. 18.5398 18.1028 17.2602 16.8596 16.4742 16.0963 15.7235 15. 21.1091 20.6103 20.1234 19.6485	ក្រ	2.366	12.074	1.791	1.516	1.2	٦.	<i>.</i>	0.512	o I	.039
13.7200 13.3988 13.0854 12.7796 12.4868 12.2065 11.9312 11.6586 11. 14.3750 14.0381 13.7093 13.3885 13.0811 12.7865 12.4972 12.2110 11. 15.0143 14.6620 14.3182 13.9828 13.6611 13.3526 13.0496 12.7501 12. 15.0143 14.6620 14.3182 13.9828 13.6611 13.3526 13.0496 12.7501 12. 15.6382 15.2709 14.9124 14.5628 14.2771 13.9050 13.5888 13.2763 12. 16.2471 15.8652 15.6813 15.3187 14.4441 14.1150 13.7899 13. 16.8414 16.4452 16.0585 15.6813 15.3187 14.4441 14.1150 13.7899 13. 17.4213 17.012 16.6109 16.2204 15.8449 15.4839 15.1297 14.7802 14. 17.9874 17.5636 17.1500 16.7466 16.3584 15.9851 15.6189 15.235 15. 18.5398 18.1028 17.6762 17.2602 16.8596 16.4742 16.0963 15.735 15. 25.3983 24.7964 22.2903 <td>4</td> <td>2 050</td> <td>12.743</td> <td>8</td> <td>.155</td> <td>.877</td> <td>H.</td> <td>1.351</td> <td>1.092</td> <td>₩.</td> <td>0.5</td>	4	2 050	12.743	8	.155	.877	H.	1.351	1.092	₩.	0.5
14.3750 14.0381 13.7093 13.3885 13.0811 12.7865 12.4972 12.2110 11. 14.3750 14.0381 13.7093 13.9828 13.6611 13.3526 13.0496 12.7501 12. 15.6382 15.2709 14.9124 14.5628 14.2271 13.9050 13.5888 13.2763 12. 16.2382 15.2709 14.9124 15.1288 14.7795 14.4441 14.1150 13.2763 13. 16.8414 16.4452 16.0585 15.6813 15.3187 14.4441 14.1150 13.7899 13. 17.4213 17.0112 16.6109 16.2204 15.8449 15.4839 15.1297 14.7802 14. 17.9874 17.5636 17.1500 16.7466 16.3584 15.9851 15.6189 15.2576 14. 18.5398 18.1028 17.6762 17.2602 16.8596 16.4742 16.0963 15.7235 15. 21.1091 20.6103 20.1234 19.6485 19.1906 18.7492 19.8091 19. 25.3983 22.2903 21.7633 21.2645 23.5645 23.0122 23.3645 23.3442 23.3442 23.3442 23.3442 23.3442 <td>י פ</td> <td>2000</td> <td>13,398</td> <td>~</td> <td>-</td> <td>4</td> <td>4</td> <td>1.931</td> <td>1.658</td> <td>ų.</td> <td>1.131</td>	י פ	2000	13,398	~	-	4	4	1.931	1.658	ų.	1.131
15.0143 14.6620 14.3182 13.9828 13.6611 13.3526 13.0496 12.7501 12.7501 15.6382 15.2709 14.9124 14.5628 14.2271 13.9050 13.5888 13.2763 12.7501 16.2382 15.2709 14.9124 14.9124 14.9150 13.7899 13.7899 16.8414 16.4452 16.0585 15.6813 15.3187 14.4441 14.1150 13.7899 13.7899 17.4213 17.0112 16.6109 16.2204 15.8449 15.4839 15.6189 14.2911 13.7892 17.9874 17.5636 17.1500 16.7466 16.3584 15.9851 15.6189 15.2576 14.7802 18.5398 18.1028 17.6762 17.2602 16.8596 16.4742 16.0963 15.7235 15. 21.1091 20.6103 20.1234 19.6485 19.1906 18.7492 18.3165 17.8904 17. 25.3983 22.2903 21.7633 21.2545 22.0232 24.3642 23.5645 23.0122 22.347 27.1819 26.7620 26.7620 26.7331 25.247 24.9292 24.3442 23.3622	- a	4 375	14.038	,	. "	•	ď	2.497	2.211	11.9303	657
15.6382 15.2709 14.9124 14.5628 14.2271 13.9050 13.5888 13.2763 12. 16.2471 15.8652 15.4924 15.1288 14.7795 14.4441 14.1150 13.7899 13. 16.8414 16.4452 16.0585 15.6813 15.3187 14.9703 14.6285 14.2911 13. 17.4213 17.0112 16.6109 16.2204 15.8449 15.4839 15.1297 14.7802 14. 17.9874 17.5636 17.1500 16.7466 16.3584 15.9851 15.6189 15.2576 14. 18.5398 18.1028 17.6762 17.2602 16.8596 16.4742 16.0963 15.7235 15. 21.1091 20.6103 20.1234 19.6485 19.1906 18.7492 18.3165 17.8904 17. 23.3840 22.8305 22.22903 21.7633 21.2545 20.2824 19.8091 19. 25.3983 24.7964 24.2090 23.6359 24.7002 24.1264 23.5645 23.0122 23.3647 24.3442 23.247 24.3442 23.34342 23.33	0 0	5 0 5	14.662	4	5	•	m,	3.049	2.750	4	2.171
1 16.2471 15.8652 15.4924 15.1288 14.7795 14.4441 14.1150 13.7899 13.7899 2 16.8414 16.4452 16.0585 15.6813 15.3187 14.9703 14.6285 14.2911 13.7899 3 17.4213 17.0112 16.6109 16.2204 15.8449 15.4839 15.1297 14.7802 14.7802 4 17.9874 17.5636 17.1500 16.7466 16.3584 15.9851 15.6189 15.2576 14.717 5 18.5398 18.1028 17.6762 17.2602 16.8596 16.4742 16.0963 15.7235 15.7235 15.7235 15.7235 0 21.1091 20.6103 20.1234 19.6485 19.1906 18.7492 18.3165 17.8904 17.8904 17.8904 5 23.3840 22.2903 21.7633 21.2545 20.7635 20.2824 19.8091 19.8091 6 25.3983 24.7002 24.1264 23.5645 23.0122 23.0122 23.0122 10 27.1819 27.4121 26.7620 26.1331 25.5247 24.9292 24.3442 23.262	0 0	5.638	15.270	4	r.	•	m	3.588	3.276	2.9	2.672
1 10.247 10.2547 14.6285 14.2911 13. 1 16.8414 16.4452 16.0585 15.6813 15.3187 14.9703 14.6285 14.2911 13. 1 17.4213 17.0112 16.6109 16.2204 15.849 15.4839 15.1297 14.7802 14. 4 17.9874 17.5636 17.1500 16.7466 16.3584 15.9851 15.6189 15.2576 14. 5 18.5398 18.1028 17.6762 17.2602 16.8596 16.4742 16.0963 15.7235 15. 0 21.1091 20.6103 20.1234 19.6485 19.1906 18.7492 18.3165 17.8904 17. 5 23.3840 22.2903 21.7633 21.2545 20.7635 20.2824 19.8091 19. 5 25.3983 24.7964 24.2090 23.6359 24.7002 24.1264 23.5645 23.30122 22. 5 27.412 26.7620 26.1331 25.247 24.9292 24.3442 23.247		247	15 865	5 492	7	4.779	4.444	4.11	ຕັ	13.	3.16
3 17.4213 17.0112 16.5109 16.2204 15.8449 15.4839 15.1297 14.7802 15.7235 15.7	٦ ،	7 7 7 7	16.445		5	'n	14.970	4.62	4	_	13.6389
4 17.521 17.5636 17.1500 16.7466 16.3584 15.9851 15.6189 15.2576 14. 5 18.5398 18.1028 17.6762 17.2602 16.8596 16.4742 16.0963 15.7235 15. 0 21.1091 20.6103 20.1234 19.6485 19.1906 18.7492 18.3165 17.8904 17. 5 23.3840 22.8305 22.2903 21.7633 21.2545 20.7635 20.2824 19.8091 19. 9 25.3983 24.7964 24.2090 23.6359 24.7002 24.1264 23.5645 23.547 22.0232 21.5079 21. 5 27.1819 26.5372 27.4121 26.7620 26.1331 25.5247 24.9292 24.3442 23.	ų r	1 6 6 6	17 011		16,	ហ	15.483	5.12	4	14.	4.10
4 17.5074 17.508 17.2602 16.8596 16.4742 16.0963 15.7235 15. 5 21.1091 20.6103 20.1234 19.6485 19.1906 18.7492 18.3165 17.8904 17. 5 23.3840 22.8305 22.2903 21.7633 21.2545 20.7635 20.2824 19.8091 19. 6 25.3983 24.7964 24.2090 23.6359 24.7002 24.1264 23.5645 23.0122 22. 5 27.1819 26.5372 26.5372 25.2939 24.7002 24.1264 23.5645 23.0122 22. 5 26.5372 27.4121 26.7620 26.1331 25.5247 24.9292 24.3442 23.	? :	124.1	77.057	, ,	9	9	15,985	5.61	'n	14.	4.55
21.1091 20.6103 20.1234 19.6485 19.1906 18.7492 18.3165 17.8904 17 23.3840 22.8305 22.2903 21.7633 21.2545 20.7635 20.2824 19.8091 19 25.3983 24.7964 24.2090 23.6359 23.0821 22.5471 22.0232 21.5079 21 27.1819 26.5372 25.9079 25.2939 24.7002 24.1264 23.5645 23.0122 22 27.1819 26.7610 26.7620 26.1331 25.5247 24.9292 24.3442 23	4 W	8.539	18.102	7.6	17.	9	16.474	6.09	Ď.	15.	8
23.3840 22.8305 22.2903 21.7633 21.2545 20.7635 20.2824 19.8091 19 25.3983 24.7964 24.2090 23.6359 23.0821 22.5471 22.0232 21.5079 21 25.3983 24.7964 24.2090 23.6359 24.7002 24.1264 23.5645 23.0122 22 27.1819 26.5372 25.9079 25.2939 24.7002 24.1264 23.5645 23.0122 22 27.1819 26.5372 27.4121 26.7620 26.1331 25.5247 24.9292 24.3442 23		100	20.6	c	19.64	6	ω,	8.316	7.890	4	17.0
25.3840 27.3954 24.2090 23.6359 23.0821 22.5471 22.0232 21.5079 21 25.3983 24.7964 25.2093 23.0821 22.5471 22.5645 23.0122 22 27.1819 26.5772 25.2939 24.7002 24.1264 23.5645 23.0122 22 27.1819 26.7345 27.4121 26.7620 26.1331 25.5247 24.9292 24.3442 23	۲ کا د	707.7		, 0	21.76		Ö	0.282	9.809	.34	18.894
25.3563 24.7704 25.2039 24.7002 24.1264 23.5645 23.0122 22 27.1819 26.7620 26.1331 25.5247 24.9292 24.3442 23	ກຸ	4000	24.0	•	23.63			2.023	1.507	8	20.512
27.1619 26:53/2 23:70/3 26:7620 26:1331 25:5247 24:9292 24:3442 23	2 4	0,00	7.47		25.20	4	4	3.564	3.012	.47	21.945
	υ C	/.181 8.761	28.0		26.76	9	Ŋ	4.929	4.344	.77	23.214

~1 Notes:

Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum of Agreement on Criteria/Standards for EA/LCC for MILCON Design.
Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes for Industrial Sector (NIST Annual Supplement to Handbook 135, Oct 1992). **\$**

ENERGY STUDIES: U.S. AVERAGE

Table E-3-LP-5. Present Worth Factors--Liquified Petroleum Gas (LPG)

Number				Be	Beneficial O	Occupancy D	Date			
ot Payments	Oct 1993	Oct 1994	Oct 1995	Oct 1996	Oct 1997	Oct 1998	Oct 1999	Oct 2000	Oct 2001	Oct 2002
	.962	۰,	908		.887	8	8.	.857	.842	.825
7	œ	œ	1.8057	1.7853	1.7659	1.7476	1.7265	9	1.6675	3
m	.800		.693	•	.635	9.	'n	•	474	.421
4	.697	9	.571	•	.492	4.	Ŀ.	.332	.263	.189
ស	. 585	•	.440	•	.334	7	ď	.120	.031	.938
9	.463	۳.	, .	•	5.1600	.079	6.	8	۲.	.66
	333			•	.967	.868		9	'n	.37
- 00	190	0		•	.755	.636	ΓŪ	ε.	3	90.
o 60		Φ,	7.7730	7.6533	7.5242	7.3855	7.2368	7.0779	6.9119	6.7443
10	828		8.5613	•	.273	.115	σ.	. 7	ភ	.40
11	. 665	.491	9.3299	9.1708	9.0028	.825			7	8.050
12	0.453	0.259	0	•	.713	.516	•	•	Φ,	8.681
13	11.2222		10.8084	ö	ö	ö	9.9731	9.7496	6	9.5
14	1.971	1.738	~	•	.078	.851	•	•	ᇽ	9.903
15	2.700	2.448	2	÷.	1.739	1.497	÷.	o.	0.7	10.493
16	3,411	3.1	7	2.63		.128	1.8	1.6	1.335	1.06
17	4.102	3.8	n	3.28	3.016	2.746	2.4	2.1	1.911	1.62
18	-	4	14.1905	13.9142	13.6341	ຕ	13.0620	9	12.4720	12.1762
19	5.437	5.1	4	4.53	4.237	3.940	3.6	ë	3.018	2.70
20	6.082	5.7	ഗ	5.13	4.827	4.516	4.1	3.87	3.550	3.22
	6.714	16.3695	ဖ		15.4036	.076	14.7449	14.4076	14.0685	3.730
	.33	9	16.6336	16.3012	15.9645	15.6232	15.2769	4.9	14.5729	14.2212
	7.935	17.5633	-	6.8	6.510	6.155	5.79	5.43	5.063	4.697
	8.525	8.1	۲.	7.4	7.042	6.673	6.29	.92	. 539	5.159
25	9.101	8.6	œ.	7.9	7.561	7.177	6.78	6.39	6.001	5.606
30	1.763	1.29	ြ	. 0	9	9.4	.02	l v.	æ	17.63
35	4.072	3.52	'n	N	_	1.4	.92	4.	ġ.	19.35
40	26.0361	25.4285	24.8422	24.2663	23.6898	23.1129	S	95	21.3803	20.8
45	7.698	7.03	ė	ហ	വ	4.5	.89	23.2727	'n	22.04
20	9.105	8.39	Ļ.		Φ	5.7	.04	.38	m	23.08

Notes:

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum of Agreement on Criteria/Standards for EA/LCC for MILCON Design.
Data Based on Discount Rate of 4.0% and DOE Projections of Future Price Level Changes for Residential Sector (NIST Annual Supplement to Handbook 135, Oct 1992).

Part II. Tables of Present Worth Factors for Non-Energy Studies

Part II contains tables of present worth factors for use in computing the life-cycle costs of the competing alternatives in a non-energy study, where energy costs are either nonexistent or equal among all alternatives, in accordance with the provisions of governing DoD criteria (see Appendix A).

Table NE-1-1, "Present Worth Factors--One-Time Costs, Zero Differential Escalation," provides factors for costs which occur one time or at irregular time intervals throughout the study period and which increase at approximately the rate of general inflation (hence the term "zero differential escalation"). These costs may include construction/acquisition costs, non-annually recurring maintenance costs, major repair and replacement costs, and retention/salvage value or disposal cost. These factors are called "single present worth" (SPW) factors. The present worth of each cost occurrence is found by multiplying that cost, in Date-of-Study (DOS) prices, by the SPW factor corresponding to the time of occurrence (years after DOS). Interpolation is encouraged for non-integer time periods.

Table NE-1-2, "Present Worth Factors--One-Time Costs, Non-Zero Differential Escalation," provides present worth factors for costs which occur one time or at irregular intervals throughout the study period and which change faster or more slowly than general price inflation. The "differential escalation rate" is the difference between the rate of increase in the particular type of cost under consideration and general price inflation. Present worth factors are shown for differential escalation rates ranging from -5% to +5% in 1% increments. These factors are sometimes called "modified single present worth" (SPW*) factors. The present worth of each cost occurrence is found by multiplying that cost, in DOS prices, by the SPW* factor corresponding to the time of occurrence (years after DOS) and the differential escalation rate. Interpolation is encouraged for time periods and escalation rates other than those shown on the table.

Table NE-2-1 provides present worth factors for costs which are incurred annually throughout the study period, such as routine maintenance and repair costs, and which are not expected to change faster or more slowly than the rate of general inflation. These factors are called "uniform present worth" (UPW) factors. The factors in this table are based on the assumption that the DOS is in April 1993, the beneficial occupancy date is in October of the same year or a future year, and that the annual cost occurs approximately at mid-year during each year of occupancy, or represents the sum of several costs distributed relatively uniformly throughout the year. The present worth of a cost recurring annually over the study period is found by multiplying the annual amount, in DOS prices, by the appropriate UPW factor. The number of payments generally corresponds to the number of years in the study period after the beneficial occupancy date. Interpolation is encouraged for study periods and for beneficial occupancy dates other than those shown on the tables.

where

¹ A more accurate way of calculating the differential escalation rate for a project-related cost is:

e = (1+E)/(1+I)-1

e = the differential escalation rate,

E = the actual escalation rate, and

I = the rate of general inflation.

Tables NE-2-2 through NE-2-11 provide present worth factors for costs which are incurred annually throughout the study period and which are expected to change faster or more slowly than the rate of general inflation. The differential rate of escalation is included in the table title; these differential rates range from -5% to +5% in 1% increments. Present worth factors which include escalation are sometimes called "modified uniform present worth" (UPW*) factors. The UPW* factors in this table are based on the assumption that the DOS is in April 1993, the beneficial occupancy date is in October of the same year or a future year, and that the annual cost occurs approximately at mid-year during each year of occupancy, or represents the sum of several costs distributed relatively uniformly throughout the year. The present worth of a cost recurring annually over the study period is found by multiplying the annual amount, in DOS prices, by the appropriate UPW* factor. The number of payments generally corresponds to the number of years in the study period after the beneficial occupancy date. Interpolation is encouraged for study periods and escalation rates and beneficial occupancy dates other than those shown on the tables.

Table NE-1-1. Present Worth Factors--One-Time Costs Zero Differential Escalation (e = 0%)

SPW Factor	0.2176 0.1978 0.1799 0.1635 0.1486	0.1351 0.1228 0.1117 0.1015 0.0923	0.0839 0.0763 0.0693 0.0630 0.0573	0.0356 0.0221 0.0137 0.0085
Time Cost Incurred (Years after DOS)	16 17 18 19 20	21 22 23 24 25	26 27 28 29 30	35 40 45 50
SPW Factor	1.0000 0.9765 0.9535 0.9310	0.9091 0.8264 0.7513 0.6830 0.6209	0.5645 0.5132 0.4665 0.4241 0.3855	0.3505 0.3186 0.2897 0.2633 0.2394
Time Cost Incurred (Years after DOS)	0.00 0.25 0.50 0.75	ተሪፎፋሪ	6 7 8 9 10	11 12 13 14

<1> Tabulated SPW Factors Valid for Indefinite Period (Not Calendar-Dependent)
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum of Agreement on Criteria/Standards for EA/LCC for MILCON Design. (Discount Rate = 10%)
<3> Covers Costs such as Construction, Procurement, Replacement, Disposal. Notes:

Table NE-1-2. Present Worth Factors--One-Time Costs Non-Zero Differential Escalation

(Vestes affect Dots) -5% -4% -1% -1% -1% -1% -2% -1% -1% 1% 2% 3% 4% 5% 0.05 0.056 0.0560 0.0500 0.0500 0.0000	Time Cost Incurred				Q	ifferenti	al Escalat	ton Rate			
1000 1,000	s after		4			1		28	3%		5%
1.0 0.5924 0.5925 0.59	0.0	000	000.	000.	.000	.000	.000	.000	000.	000.	000.
7.5 0.8656 0.9029 0.9100 0.9140 0.9249 0.9489 <td>, r</td> <td>926</td> <td>934</td> <td>939</td> <td>.943</td> <td>.948</td> <td>.958</td> <td>.962</td> <td>.967</td> <td>.972</td> <td>.977</td>	, r	926	934	939	.943	.948	.958	.962	.967	.972	.977
1 0.8636 0.8727 0.8818 0.9900 0.9182 0.9573 0.9564 0.9455 0.9564 0.9455 0.9561 0.7741 0.8100 0.7411 0.8210	.7	.895	.902	.910	.917	.924	.938	.944	.951	.958	.965
0.7459 0.7517 0.7737 0.7739 0.8110 0.8431 0.8158 0.8178 0.7945 4 0.6442 0.6647 0.7739 0.7741 0.7793 0.7867 0.7990 4 0.6442 0.6267 0.6510 0.7793 0.7867 0.7990 6 0.4806 0.5613 0.6566 0.7793 0.7867 0.7990 6 0.4806 0.5807 0.6517 0.7973 0.7867 0.7990 7 0.4806 0.5807 0.6587 0.6487 0.7990 0.7791 8 0.3084 0.3866 0.3487 0.4898 0.5817 0.7482 0.5618 0.5817 0.7597 9 0.2287 0.2287 0.2284 0.3879 0.4404 0.4879 0.6519 1 0.1924 0.2287 0.2284 0.3879 0.4404 0.4873 0.6519 1 0.1924 0.2280 0.2284 0.3289 0.4404 0.4873 0.639	7	.863	.872	.881	.890	900	.918	.927	.936	.945	.954
3 0.55647 0.6647 0.6687 0.7771 0.7797 0.7789 0.7774 0.7973 0.78810 0.7784 0.7882 0.7882 0.7882 0.7882 0.7882 0.7789 0.7789 0.7789 0.7789 0.7882 0.7882 0.7882 0.7882 0.7789 0.7789 0.7882 <th>7</th> <th>.745</th> <th>.761</th> <th>.777</th> <th>.793</th> <th>.810</th> <th>.843</th> <th>.859</th> <th>.876</th> <th>.893</th> <th>.911</th>	7	.745	.761	.777	.793	.810	.843	.859	.876	.893	.911
4 0.5563 0.5647 0.6504 0.6556 0.7139 0.7139 0.7142	m	.644	.664	. 685	.707	. 729	.774	. 797	.821	.845	. 869
0.4449 0.4569 0.5322 0.5344 0.5352 0.5344 0.5352 0.5354 0.5562 0.5585 0.6440 0.7142<	4:	. 556	.580	.604	.630	. 656	710	739	7,08	777	7000
0.3584 0.3584 0.3584 0.3456 0.4146 0.4455 0.4783 0.5502 0.5895 0.6511 0.6753 0.723 0.2035 0.2364 0.3847 0.4259 0.4076 0.5084 0.6894 0.6894 0.2073 0.2374 0.2364 0.3487 0.4259 0.4700 0.5181 0.6894 0.6894 0.2073 0.2374 0.2374 0.3487 0.4259 0.4700 0.5181 0.6574 0.6584 0.6878 0.1024 0.1284 0.2228 0.2397 0.3475 0.3493 0.4560 0.5191 0.6779 0.3277 0.4274 0.4281 0.5779 0.4277 0.4274 0.5288 0.3475 0.3475 0.5191 0.677 0.677 0.4779		. 480 717	2000	220	1002	25.2	599	635	674	714	756
6 0.3565 0.3565 0.3565 0.3565 0.3565 0.3566 0.5508 0.5508 0.5508 0.5508 0.5534 0.683 0.26673 0.22673 0.22673 0.34874 0.4559 0.4700 0.5181 0.6384 0.6689 0.25673 0.22673 0.22674 0.34874 0.4559 0.4700 0.5181 0.6270 0.6284 0.5869 0.4700 0.5181 0.5707 0.6284 0.5589 0.44873 0.5181 0.5707 0.6284 0.3747 0.42843 0.5101 0.5707 0.5867 0.7474 0.4562 0.5803 0.5707 0.5803	0 1	358	385	414	445	478	.550	589	631	675	722
9 0.25673 0.2937 0.3324 0.3836 0.3874 0.4638 0.5568 0.5534 0.6036 0.6577 0.2308 0.2563 0.2843 0.3150 0.3487 0.4259 0.4700 0.5181 0.5039 1 0.1294 0.2263 0.2284 0.3990 0.4485 0.5181 0.5199 2 0.1722 0.2217 0.2264 0.3297 0.3475 0.4853 0.5190 3 0.1284 0.1704 0.1286 0.2228 0.2277 0.3475 0.4823 0.5463 0.01294 0.1729 0.1179 0.1286 0.2277 0.3475 0.4823 0.5460 0.0827 0.1019 0.1179 0.1179 0.1179 0.1270 0.1270 0.3277 0.3472 0.4823 0.5476 0.0827 0.01179 0.1179 0.1179 0.1179 0.1179 0.1270 0.3287 0.3472 0.3487 0.475 0.0827 0.0187 0.1174 0.1187	- 00	309	.336	365	.396	430	.505	.546	.591	.638	.689
0.1994 0.2243 0.2430 0.3487 0.4259 0.4700 0.5181 0.5707 0.0284 1 0.1994 0.2237 0.2507 0.2804 0.3590 0.4486 0.4852 0.5396 0.599 2 0.1722 0.1704 0.1250 0.2221 0.2800 0.2824 0.3590 0.4054 0.4254 0.5106 3 0.1184 0.1704 0.1286 0.2221 0.2800 0.2874 0.4254 0.5101 4 0.1184 0.1704 0.1286 0.2279 0.3277 0.3730 0.4456 0.5211 5 0.0917 0.1179 0.1188 0.1284 0.2843 0.2779 0.3730 0.4411 <td>6</td> <td>.267</td> <td>. 293</td> <td>.322</td> <td>.353</td> <td>.387</td> <td>.463</td> <td>. 506</td> <td>. 553</td> <td>.603</td> <td>.657</td>	6	.267	. 293	.322	.353	.387	.463	. 506	. 553	.603	.657
1 0.1994 0.2237 0.2807 0.3138 0.3910 0.4358 0.4852 0.5396 0.5996 2 0.1787 0.1795 0.2260 0.2284 0.3590 0.4441 0.4454 0.5101 0.572 0.1787 0.1797 0.1709 0.2280 0.2359 0.3457 0.4454 0.5101 0.572 0.1187 0.1788 0.2288 0.3277 0.3475 0.4939 0.4560 0.5279 0.3475 0.4939 0.4560 0.573 0.4560 0.5279 0.4760 0.4560 0.4576 0.5730 0.4456 0.4550 0.4550 0.4560 0.4570 0.5740 0.4570 0.4570 0.4570 0.4570 0.4570 0.4570 0.4570 0.4570 0.4670 0.4450 0.4570	10	.230	.256	.284	.315	.348	.425	.470	.518	.570	.628
2 0.1722 0.1952 0.2211 0.2528 0.3590 0.4441 0.4543 0.5101 0.572 3 0.1487 0.1719 0.1950 0.2288 0.2842 0.3747 0.3447 0.4523 0.5460 0.1284 0.1719 0.1719 0.1719 0.1719 0.1719 0.1719 0.1719 0.1719 0.1719 0.1719 0.1719 0.1719 0.1719 0.1719 0.1719 0.1711 0.1719 0.1719 0.1711 0.17	11	.199	.223	.250	.280	.313	.391	.435	.485	.539	. 599
3 0.1487 0.1704 0.1250 0.2542 0.3277 0.3747 0.4560 0.4546 0.4546 0.4546 0.4546 0.4560 0.546 0.1109 0.1109 0.1288 0.3229 0.3777 0.3475 0.3450 0.4560 0.5460 0.5460 0.5476 0.4560 0.5476 0.4560 0.5471 0.4573 0.4571 0.4573 0.4571 0.4573 0.4476 0.4576 0.4570 0.3777 0.3279 0.3747 0.3874 0.4371 0.4776 0.4476	12	.172	.195	.221	.250	.282	.359	.404	.454	.510	.572
4 0.1284 0.1487 0.1719 0.1985 0.2288 0.3475 0.3481 0.4560 0.5218 6 0.1109 0.11284 0.11719 0.1516 0.1278 0.2373 0.3475 0.3492 0.4456 0.4556 7 0.0958 0.1139 0.1139 0.1668 0.2543 0.2770 0.3470 0.4475 0.4475 8 0.0827 0.0988 0.1139 0.1550 0.1567 0.2569 0.3402 0.4475 0.445 9 0.0617 0.0963 0.0992 0.1516 0.1975 0.2569 0.3445 0.445 0.445 0.0533 0.0657 0.0808 0.1014 0.1655 0.2269 0.2685 0.3445 0.413 0.0460 0.0570 0.0629 0.0788 0.1665 0.2685 0.2586 0.3547 0.2685 0.3547 0.3079 0.0341 0.0526 0.0738 0.0788 0.1665 0.2685 0.2685 0.3254 0.3445 <	13	.148	.170	.195	.222	.254	.329	.374	.425	.482	.546
5 0.1109 0.1298 0.1718 0.2059 0.2779 0.3722 0.3730 0.4411 0.4456 6 0.0958 0.1134 0.1179 0.1575 0.1688 0.2343 0.2770 0.3479 0.4431 0.0874 0.0988 0.1179 0.1250 0.1511 0.2559 0.2770 0.3479 0.4434 0.0617 0.0753 0.0917 0.1184 0.1314 0.1814 0.2182 0.2769 0.3464 0.443 0.0617 0.0808 0.0917 0.1814 0.1814 0.2209 0.2685 0.3457 0.345 0.0540 0.0573 0.0702 0.0886 0.1529 0.2204 0.2514 0.3257 0.345 0.0343 0.0437 0.0629 0.0702 0.0886 0.1404 0.1761 0.2204 0.2753 0.345 0.0256 0.0381 0.0425 0.0702 0.0886 0.1404 0.1504 0.2504 0.2514 0.345 0.0256 0.0381	14	.128	.148	.171	. 198	. 228	.302	.347	.398	.456	.521
6 0.0958 0.11337 0.1575 0.1255 0.2343 0.1370 0.1370 0.4473 7 0.0824 0.0824 0.1370 0.3445 0.432 8 0.0714 0.0863 0.1179 0.1150 0.1561 0.2569 0.3362 0.3854 0.432 9 0.0617 0.0808 0.1351 0.1814 0.2569 0.3667 0.3445 0.443 0 0.0533 0.0657 0.0808 0.1084 0.1665 0.2209 0.2685 0.3257 0.394 1 0.0460 0.0573 0.0788 0.1084 0.1665 0.2209 0.2564 0.2357 0.345 2 0.0397 0.0629 0.0788 0.1689 0.1899 0.2364 0.2367 0.346 3 0.0296 0.0381 0.0786 0.0688 0.1689 0.1633 0.2460 0.2364 0.357 0.346 4 0.0296 0.0381 0.0581 0.0189 0.1633 0.2	15	.110	.129	.151	.176	.205	.277	.322	.373	.431	497
7 0.0887 0.0988 0.1179 0.11808 0.2345 0.2569 0.3367 0.3364 0.4353 9 0.0614 0.0863 0.1135 0.1515 0.2569 0.3364 0.413 9 0.0617 0.0783 0.0917 0.1184 0.2569 0.2867 0.3445 0.413 1 0.0657 0.0808 0.0925 0.1216 0.1814 0.2569 0.2685 0.3257 0.3344 0.432 1 0.0460 0.0573 0.0713 0.0884 0.1065 0.1689 0.2514 0.3257 0.334 2 0.0381 0.0629 0.0702 0.0886 0.1404 0.1619 0.2204 0.2753 0.344 3 0.0343 0.0489 0.0786 0.1689 0.1641 0.2164 0.2164 0.2164 0.2164 0.2164 0.2164 0.2164 0.2164 0.2164 0.2164 0.2164 0.2164 0.2164 0.2164 0.2164 0.2164 0.2164 0.21	16	.095	113	133	.157	185	255	272		704.	0.4.
0.0514 0.0553 0.1039 0.1230 0.1231 0.1231 0.1231 0.1231 0.1231 0.1231 0.1231 0.1234<	17	.082	960.	.117	140	166	234	777.	775.	263	.405
0.0553 0.0657 0.0808 0.01516 0.1216 0.1814 0.2209 0.2685 0.3257 0.394 1 0.0653 0.0657 0.0808 0.0194 0.1665 0.2048 0.2514 0.376 0.376 2 0.0397 0.0573 0.0762 0.0886 0.1649 0.1659 0.2514 0.3793 0.3753 3 0.0343 0.0654 0.0702 0.0886 0.1464 0.1761 0.2204 0.251 0.357 4 0.0256 0.0381 0.0431 0.0557 0.0718 0.1164 0.1514 0.2044 0.2504 0.2503 0.3276 5 0.0221 0.0380 0.0442 0.0646 0.1644 0.1514 0.1932 0.2760 0.3276 6 0.0221 0.0380 0.0442 0.0581 0.0184 0.1694 0.1584 0.1594 0.2719 0.2719 9 0.0165 0.0221 0.0394 0.0544 0.0720 0.1486 0.1207 <td>8 6</td> <td>1,0.</td> <td>000</td> <td>207.</td> <td>.123</td> <td>135</td> <td>197</td> <td>220</td> <td>286</td> <td>344</td> <td>413</td>	8 6	1,0.	000	207.	.123	135	197	220	286	344	413
1 0.0460 0.0573 0.0713 0.0884 0.1094 0.1665 0.2048 0.2514 0.379 0.376 2 0.0397 0.0629 0.0702 0.0985 0.1529 0.1899 0.2354 0.2911 0.359 3 0.0343 0.0629 0.0702 0.0886 0.1404 0.1761 0.2204 0.2753 0.343 4 0.0256 0.0489 0.0625 0.0798 0.1899 0.1564 0.2064 0.2460 0.312 6 0.0221 0.0489 0.0655 0.0718 0.1184 0.1514 0.1932 0.2460 0.312 0.0221 0.0290 0.0335 0.0442 0.0581 0.0998 0.1304 0.1894 0.2199 0.2326 0.2396 0.0442 0.0916 0.1304 0.1194 0.1894 0.1894 0.2199 0.2199 0.2199 0.2199 0.2199 0.2199 0.2199 0.2199 0.2199 0.2199 0.02199 0.0219 0.0219 0.0219	20	.053	.065	.080	.099	121	181	.220	.268	325	394
1 0.0460 0.0573 0.0713 0.0884 0.1094 0.1665 0.2048 0.2514 0.3079 0.359 2 0.0397 0.0500 0.0629 0.0702 0.0886 0.1164 0.1761 0.2204 0.2753 0.343 3 0.0296 0.0489 0.0625 0.0798 0.1289 0.1533 0.2064 0.2704 0.2753 0.347 4 0.0256 0.0381 0.0657 0.0798 0.1184 0.1514 0.1932 0.2460 0.327 6 0.0256 0.0380 0.0442 0.0581 0.1844 0.1849 0.2326 0.2364 0.2664 0.2679 0.2376 7 0.0251 0.0380 0.0442 0.0581 0.0998 0.1307 0.1894 0.2193 0.2189 0.2189 0.1894 0.1894 0.2189 0.1894 0.1894 0.1894 0.1894 0.1894 0.2189 0.1894 0.1894 0.1894 0.1894 0.1894 0.1894 0.1894											
2 0.0397 0.0500 0.0629 0.0788 0.0985 0.1529 0.1899 0.2354 0.2351 0.3593 3 0.0343 0.0437 0.0554 0.0702 0.0886 0.1404 0.1761 0.2204 0.2753 0.343 4 0.0296 0.0331 0.0625 0.0718 0.1184 0.1514 0.1932 0.2460 0.312 5 0.0256 0.0333 0.0442 0.0718 0.1184 0.1509 0.2356 0.2356 0.2366 0.2366 0.2366 0.2366 0.2366 0.2371 0.289 0.1207 0.1694 0.2189 0.2371 8 0.0142 0.0253 0.0442 0.0523 0.0916 0.1207 0.1694 0.2199 0.2379 0.2379 9 0.0142 0.0351 0.0424 0.0772 0.1038 0.1966 0.1869 0.1869 0.2079 0 0.0123 0.0230 0.0313 0.0424 0.0772 0.1038 0.1468 0.1	21	.046	.057	.071	.088	.109	.166	.204	.251	.307	.376
3 0.0343 0.0437 0.0554 0.0702 0.0886 0.1404 0.1761 0.2204 0.2753 0.343 4 0.0256 0.0381 0.0625 0.0798 0.1289 0.1633 0.2460 0.327 5 0.0256 0.0333 0.0442 0.0646 0.1804 0.1809 0.2460 0.328 6 0.0191 0.0253 0.0442 0.0581 0.0998 0.1302 0.1694 0.2199 0.234 7 0.0165 0.0253 0.0442 0.0581 0.0998 0.1804 0.2199 0.284 8 0.0165 0.0256 0.0354 0.0471 0.0841 0.1194 0.1864 0.2079 0.277 9 0.0123 0.0231 0.0313 0.0424 0.0772 0.1086 0.1869 0.247 0 0.0123 0.0123 0.0175 0.0772 0.1038 0.0148 0.0772 0.1061 0.1869 0.247 0 0.0028 0.00	22	.039	.050	.062	.078	.098	.152	. 189	. 235	.291	.359
4 0.0296 0.04381 0.04889 0.0557 0.0718 0.11539 0.1534 0.2460 0.312 5 0.0256 0.0333 0.0442 0.0581 0.1184 0.1514 0.1809 0.2346 0.312 6 0.0251 0.0336 0.0442 0.0581 0.0998 0.1302 0.1694 0.2199 0.2346 7 0.0165 0.0253 0.0442 0.0581 0.0998 0.1302 0.1694 0.2199 0.284 8 0.0165 0.0256 0.0394 0.0523 0.0916 0.2199 0.2199 0.289 9 0.0142 0.0351 0.0471 0.0841 0.1196 0.1966 0.259 0.0123 0.0230 0.0313 0.0424 0.0772 0.1038 0.1385 0.1066 0.247 0 0.0250 0.0050 0.0072 0.0175 0.0172 0.1001 0.1404 0.1966 0 0.0028 0.0043 0.0058 0.0048	23	.034	.043	.055	.070	988	140 120	0/1.	777	070	
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0 0.0007 0.0011 0.0019 0.0031 0.0052 0.0140 0.0229 0.0373 0.0605 0.097		.001	.002	.003	.005	.008	.021	.033	.051	.080	.123
		000.	.001	.001	.003	.005	.014	.022	.03/	. 060	. 60.

Tabulated SPW Factors Valid for Indefinite Period (Not Calendar-Dependent)
Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum
of Agreement on Criteria/Standards for EA/LCC for MILCON Design (Discount Rate = 10%).
Covers Costs such as Construction, Procurement, Replacement, Disposal \$\$ \$\$ **<3>**

Notes:

Present Worth Factors--Annually Recurring Costs Zero Differential Escalation (e = 0%) Table NE-2-1.

0.9091 0.8264 0.7513 0.6830 0.6209 0.5645 0.5132 0.4665 0.4241 0.6830 0.7513 0.6830 0.5645 0.5132 0.4665 0.4241 0.6830 0.7513 0.6830 0.5896 0.4241 0.6830 0.7513 0.8906 0.4896 0.7513 0.8906 0.4896 0.7513 0.8906 0.4896 0.7513 0.8906 0.4896 0.7513 0.4665 0.4241 0.7513 0.4665 0.4241 0.7513 0.4665 0.4241 0.7513 0.4665 0.4241 0.7513 0.4665 0.4241 0.7513 0.4665 0.4241 0.7513 0.4665 0.4896 0.7513 0.2323 0.8906 0.7513 0.2522 0.7933 0.4663 0.4241 0.7513 0.4664 0.7513 0.2732 0.4664 0.7513 0.2732 0.4664 0.7513 0.4664 0.7513 0.4664 0.7513 0.4664 0.7514 0.4664 0.7514 0.4664 0.7514 0.4664 0.7514 0.4664 0.7614 0.4664 0.7614 0.4664 0.7614 0.4664 0.7614 0.4664 0.7614 0.4664 0.7614 0.4664 0.7614 0.4664 0.7614 0.4664 0.7614 0.4664 0.7614 0.4664 0.7614 0.4664 0.7614 0.4664 0.7614 0.4664 0.7614 0.4664 0.7614 0.4664 0.7614 0	Number				Ве	Beneficial O	Occupancy D	Date .			
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8.3649 7.6045 6.9132 6.2847 5.7134 5.1940 4.7218 4.2925 3.9023 3.9 8.5136 7.7396 7.0360 6.3964 5.8149 5.2863 4.8057 4.3688 3.9716 3. 8.6487 7.7396 7.1477 6.4979 5.9072 5.3702 4.8820 4.4381 4.0347 3.9716 3. 8.6487 7.3415 6.5902 5.9911 5.4464 4.9513 4.5012 4.0920 3. 8.8832 8.0757 7.3415 6.6741 6.0674 5.5158 5.0143 4.5184 3. 9.0770 8.2519 7.4254 6.7504 6.1367 5.6361 5.1238 4.6580 4.1941 3. 9.4269 8.5699 7.7908 7.0826 6.4387 5.8534 5.1238 4.6580 4.2345 3. 9.6442 8.8900 8.0819 7.3471 6.6792 6.0720 5.5200 5.0182 4.4991 4.9911 4.9910 <	18	.201	.455	•	•	•	•	9.	.208	•	•
8.5136 7.7396 7.0360 6.3964 5.8149 5.2863 4.8057 4.3688 3.9716 3. 8.6487 7.8624 7.1477 6.4979 5.9072 5.3702 4.8820 4.4381 4.0347 3. 8.7715 7.9741 7.2492 6.5902 5.9911 5.4464 4.9513 4.5012 4.0920 3. 8.8832 8.0757 7.3415 6.6741 6.0674 5.5158 5.0143 4.5585 4.1441 3. 8.9847 8.1679 7.4254 6.7504 6.1367 5.5788 5.0717 4.6106 4.1914 3. 9.0770 8.2519 7.5017 6.8197 6.1997 5.6361 5.1238 4.6580 4.2345 3. 9.4269 8.5699 7.7908 7.2458 6.5871 5.9883 5.4439 4.9490 4.4991 4. 9.6442 8.7674 7.3771 6.6792 6.0720 5.5200 5.0182 4.5620 4. 9.8628 8.9662 8.1511 7.4491 6.7720 6.1240 5.5673 5.0	19	.364	.604	•	•	.71	.19	۲.	.292	•	•
8.6487 7.8624 7.1477 6.4979 5.9072 5.3702 4.8820 4.4381 4.0347 3.3 8.7715 7.9741 7.2492 6.5902 5.9911 5.4464 4.9513 4.5012 4.0920 3.3 8.8832 8.0757 7.3415 6.6741 6.0674 5.5158 5.0143 4.5585 4.1441 3.4 8.9847 8.1679 7.4254 6.7504 6.1367 5.5788 5.0177 4.6106 4.1914 3.4 9.0770 8.2519 7.5017 6.8197 6.1997 5.6361 5.1238 4.6580 4.2345 3.4 9.4269 8.5699 7.7908 7.0826 6.4387 5.8534 5.3212 4.8375 4.3977 3.4 9.6442 8.7674 7.9704 7.2458 6.5871 5.9883 5.4439 4.9991 4.5620 9.8628 8.9662 8.1511 7.4101 6.7364 6.1240 5.5673 5.0879 4.6011 4.6011	20	.513	.739	•	•	.81	. 28	æ	.368	•	•
8.7715 7.9741 7.2492 6.5902 5.9911 5.4464 4.9513 4.5012 4.0920 3. 8.8832 8.0757 7.3415 6.6741 6.0674 5.5158 5.0143 4.5585 4.1441 3. 8.9847 8.1679 7.4254 6.7504 6.1367 5.5788 5.0717 4.6106 4.1914 3. 9.0770 8.2519 7.5017 6.8197 6.1997 5.6361 5.1238 4.6580 4.2345 3. 9.4269 8.5699 7.7908 7.0826 6.4387 5.8534 5.3212 4.8375 4.3977 3. 9.6442 8.7674 7.9704 7.2458 6.5871 5.9883 5.4439 4.9490 4.4991 4. 9.7791 8.8900 8.0819 7.3471 6.7364 6.1240 5.5673 5.012 4.6011 4. 9.8628 8.9662 8.1511 7.4491 6.7720 6.1563 5.5673 5.0879 4.6011 4. <		.648	.862	٦.		.907	۳.	.882	.438	.034	•
8.8832 8.0757 7.3415 6.6741 6.0674 5.5158 5.0143 4.5585 4.1441 3. 8.9847 8.1679 7.4254 6.7504 6.1367 5.5788 5.0717 4.6106 4.1914 3. 9.0770 8.2519 7.5017 6.8197 6.1997 5.6361 5.1238 4.6580 4.2345 3. 9.4269 8.5699 7.7908 7.0826 6.4387 5.8534 5.3212 4.8375 4.3977 3. 9.6442 8.7674 7.9704 7.2458 6.5871 5.9883 5.4439 4.9490 4.4991 4. 9.7791 8.8900 8.0819 7.3471 6.6792 6.0720 5.5200 5.0182 4.5620 4. 9.8628 8.9662 8.1511 7.4101 6.7364 6.1240 5.5673 5.0879 4.6011 4. 9.9148 9.0135 8.1941 7.4491 6.7720 6.1563 5.5967 5.0879 4.6013 4.6253 <t< td=""><td></td><td>.771</td><td>.974</td><td>7</td><td>•</td><td>•</td><td>•</td><td>.951</td><td>•</td><td>.092</td><td>•</td></t<>		.771	.974	7	•	•	•	.951	•	.092	•
8.9847 8.1679 7.4254 6.7504 6.1367 5.5788 5.0717 4.6106 4.1914 3. 9.0770 8.2519 7.5017 6.8197 6.1997 5.6361 5.1238 4.6580 4.2345 3. 9.4269 8.5699 7.7908 7.0826 6.4387 5.8534 5.3212 4.8375 4.3977 3. 9.6442 8.7674 7.9704 7.2458 6.5871 5.9883 5.4439 4.9490 4.4991 4. 9.7791 8.8900 8.0819 7.3471 6.6792 6.0720 5.5200 5.0182 4.5620 4. 9.8628 8.9662 8.1511 7.4101 6.7364 6.1240 5.5673 5.0879 4.6011 4. 9.9148 9.0135 8.1941 7.4491 6.7720 6.1563 5.5967 5.0879 4.6253 4.		.883	.075	e.	•		•	.014	•	.144	•
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9.4269 8.5699 7.7908 7.0826 6.4387 5.8534 5.3212 4.8375 4.3977 3. 9.6442 8.7774 7.9704 7.2458 6.5871 5.9883 5.4439 4.9490 4.4991 4. 9.7791 8.8900 8.0819 7.3471 6.6792 6.0720 5.5200 5.0182 4.5620 4. 9.8628 8.9662 8.1511 7.4101 6.7364 6.1240 5.5673 5.0612 4.6011 4. 9.9148 9.0135 8.1941 7.4491 6.7720 6.1563 5.5967 5.0879 4.6253 4.		.077	.251	.5	•	. 19	•	.123	•	.234	• 1
9.6442 8.7674 7.9704 7.2458 6.5871 5.9883 5.4439 4.9490 4.4991 4. 9.7791 8.8900 8.0819 7.3471 6.6792 6.0720 5.5200 5.0182 4.5620 4. 9.8628 8.9662 8.1511 7.4101 6.7364 6.1240 5.5673 5.0612 4.6011 4. 9.9148 9.0135 8.1941 7.4491 6.7720 6.1563 5.5967 5.0879 4.6253 4.	30	.426	.5					•			
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9.8628 8.9662 8.1511 7.4101 6.7364 6.1240 5.5673 5.0612 4.6011 4. 9.9148 9.0135 8.1941 7.4491 6.7720 6.1563 5.5967 5.0879 4.6253 4.	40	.779	₩.	•	•	•	•	•	•	•	4.1473
9.9148 9.0135 8.1941 7.4491 6.7720 6.1563 5.5967 5.0879 4.6253 4.	45	.862	ō.	•	•	۲.	•	•	•	•	•
	20	.914	٥.	•	•	.77	•		•	•	•

Notes:

<1> Data Based on Assumed DOS of Apr 1993. Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum of Agreement on Criteria/Standards for EA/LCC for MILCON Design (Discount Rate = 10%).
<3> Covers Costs such as Routine Maintenance & Repair and Custodial.

Present Worth Factors--Annually Recurring Costs Non-Zero Differential Escalation (e = -5%) Table NE-2-2.

Number				Be	eneficial O	Occupancy D	Date			
or Payments	Oct 1993	Oct 1994	Oct 1995	Oct 1996	Oct 1997	Oct 1998	Oct 1999	Oct 2000	Oct 2001	Oct 2002
1	.86		, .	.	.480	•	۳.		0.2673	•
8	.60		1.2005	1.0368	0.8954	0.7733	0.6678	0.5768	0.4981	0.4302
m	.25	•	•	1.4517	.253	1.0828	Q.	0.8076	0.6975	•
4	.83	•	•	8	.56	•	∹	•	.869	•
ហ		2.8417		Τ.	.830	•	۳.	•	.018	•
9	. 705	15			2.0614	1.7803		Ε.	1.1468	
7	.063			•	.260	σ.	1.6862	1.4563	.257	•
. 00	37		3.2618	2.8171	2.4329	2.1011	1.8146	1.5672	1.3535	1.1689
6	640	0		•	•	Ç	1.9255	•	.436	•
10	871	4.2071			.710	e.	•		.507	•
	070.	ო		3.2663	2.8209	2.4363	=	1.8171	1.5693	1.3553
	242	R	•	.377	.91	•	٦.	.878	.622	.401
	.391	9	•	4	.99	•	7	.932	.668	.441
	5.5200	767	4.1172	3.5558		2.6521	2.2905	1.9781	1.7084	1.4754
15	.630	æ	•	9	.13	•	.	.017	.742	. 505
16	726	٦	اء	1 1	185	7.5	۳,	.052	1.7724	l s
2 -	000	٠.		•	231	79	4	0.08	798	'n
) F	5.8809	5.0789	4.3863	3.7882	1 0	2.8255	2.4402	107	820	1.5719
19	942	. न	4	•	306	.85	4.	•	•	ห
20	.995	7	4	3.8623	.335	.88	4.	. 148	.855	•
	.041	?	1 12	۱ %	.361	.902	5.	2.1651	1.8699	1.6149
22	08	5.2523	36	3.9175	3,3833	2	2.5235	~	•	1.6255
	.115	7	ĸ,	σ.	.402	.938	'n	7	.892	ø.
	.145	e.	ı.	σ.	.418	.952	r.	.20	.902	œ.
	.171	ų.	9	6	.433	.965		.21	. 909	9.
30	. 255	5.4024	4.6657		.480	н •	S	.2	.936	1.6720
32	.295	4	4.6959	•	.502	•	9	4	.948	•
40	6.3154			4.0681	3.5133	3.0343	2.6205	2.2632	1.9545	1.6880
45	.324	4	•	•	.518	•	ø.	ç	.957	•
20	.329	4.	4.7207	•	. 521	•	φ.	7	. 958	•

Notes:

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum of Agreement on Criteria/Standards for EA/LCC for MILCON Design (Discount Rate = 10%).
<3> Covers Costs such as Routine Maintenance & Repair and Custodial.

Present Worth Factors--Annually Recurring Costs Non-Zero Differential Escalation (e = -4%) Table NE-2-3.

nts Oct 1993 Oct 1994 Oct 1995 Oct 1996 Oct 1997 Oct 1998 0.8727 0.7617 0.6647 0.5801 0.5063 0.4418 1.6344 1.4264 1.2448 1.0864 0.9481 0.8275 2.2991 2.0065 1.7511 1.5282 1.3337 1.1640 2.2991 2.0065 1.7511 1.5282 1.3337 1.1640 2.2991 2.9151 2.2504 1.9640 1.7457 3.8273 3.3456 2.9151 2.2504 1.9640 1.7457 4.2130 3.6688 3.2088 3.2034 2.4532 2.3033 4.595 3.9705 3.4651 3.0241 2.6392 2.3033 4.595 4.4505 3.6888 3.2193 2.9632 2.4518 5.0995 4.4505 3.6884 3.2193 2.9632 2.5818 5.1034 4.867 4.0544 3.5384 3.3002 2.8818 5.1044 4.505 3.4614 3.3024 2.5818 3.2132 <	Number				Be	Beneficial O	Occupancy D	Date			
0.8727 0.7617 0.6647 0.5801 0.5063 0.481 1.6344 1.4264 1.2448 1.0864 0.9481 0.9481 2.2991 2.0065 1.7511 1.522 1.3337 1.1 2.2991 2.0065 1.7511 1.522 1.3337 1.4 2.2873 2.9546 2.1930 1.9640 1.7 4.2130 3.6768 2.2504 1.9640 1.7 4.2130 3.6768 2.2504 1.9640 1.7 4.4505 3.2088 2.2504 1.9640 1.7 4.505 3.4651 3.0241 2.2203 1.9 5.0995 4.4505 3.6888 3.2193 2.4440 2.1 5.5184 4.206 3.2841 3.3897 2.9583 2.5 5.5184 4.6505 3.8841 3.3897 2.9583 2.5 5.5184 4.6505 3.6884 3.2193 2.6394 4.6173 2.9583 2.6883 3.203 2.9883<	or ayments	199	199	ct 19	199	199	-	Oct 1999	Oct 2000	Oct 2001	Oct 2002
1.6344 1.4264 1.2448 1.0864 0.9481 0.8 2.2991 2.0065 1.7511 1.5282 1.3337 1.1 4 2.2991 2.0065 1.7511 1.5282 1.3337 1.1 5 2.8172 2.5128 2.15130 1.6703 1.4 4.2130 3.6768 3.2088 2.8004 2.4440 2.1 4.5495 3.9705 3.4651 3.0241 2.6392 2.4 5.0995 4.4505 3.4688 3.2193 2.8096 2.4 5.0995 4.4505 3.6888 3.2193 2.8096 2.4 5.0995 4.4505 3.8841 3.5302 2.8 5.5184 4.8161 4.2031 3.6882 3.2013 2.6 5.5888 4.9648 4.4462 3.8841 3.3002 2.8 6.0805 5.3067 4.6313 4.0418 3.3864 2.9 6.1794 4.7462 3.8843 3.5848 3.14617	1	.872	.761	9.		. 506	7		٠ ع		0
2.2991 2.0065 1.7511 1.5282 1.3337 1.1 4 2.8792 2.5128 2.1930 1.9139 1.6703 1.4 5 3.3855 2.9546 2.5786 2.2504 1.9640 1.7 6 3.3855 2.9546 2.5786 2.2504 1.9640 1.7 7 4.2130 3.6768 3.2088 2.8004 2.4440 2.1 8 4.8495 4.4505 3.6888 3.2132 2.8096 2.5 1 5.0995 4.4505 3.8841 3.3897 2.9583 2.5 2 5.5184 4.9648 4.0544 3.584 3.0881 2.5 3 5.6888 3.2013 2.9683 3.2013 2.5 4 4.9648 4.3329 3.7814 3.3002 2.8 5 5.8375 5.0946 4.4462 3.8803 3.3864 2.9 5 5.9673 4.4452 3.8803 3.3864 2.9 <td>~</td> <td>.634</td> <td>.426</td> <td>7</td> <td>•</td> <td>6</td> <td>Φ.</td> <td>0.7221</td> <td>0.6302</td> <td>0.5500</td> <td>Ö</td>	~	.634	.426	7	•	6	Φ.	0.7221	0.6302	0.5500	Ö
4 2.8792 2.5128 2.1930 1.9139 1.6703 1.455 5 3.3855 2.9546 2.5786 2.2504 1.9640 1.7704 1.7704 1.7704 1.7704 1.7504 1.9640 1.7704 <th< td=""><td>m</td><td>.299</td><td>.006</td><td></td><td>•</td><td>Ε.</td><td>٦.</td><td>•</td><td>ω.</td><td>•</td><td>ö</td></th<>	m	.299	.006		•	Ε.	٦.	•	ω.	•	ö
5 3.3855 2.9546 2.5786 2.2504 1.9640 1.7 4 2.3402 2.9151 2.5441 2.2203 1.9 4.5495 3.9705 3.4651 3.0241 2.2203 1.9 4.5495 3.9705 3.4651 3.0241 2.6392 2.3 4.8432 4.2268 3.6884 3.2193 2.8096 2.4 5.0995 4.4505 3.6884 3.2193 2.8096 2.4 5.5184 4.8161 4.0544 3.5384 3.0881 2.5 5.5184 4.8161 4.0544 3.5384 3.2013 2.7 5.6888 4.9648 4.4462 3.7814 3.3002 2.8 5.6888 4.9648 4.4462 3.7844 3.0881 2.7 5.0946 4.44462 3.7814 3.3002 2.8 6.0805 5.3067 4.6416 3.6864 2.9 6.1794 5.3329 4.7722 4.1649 3.6148 3.1 <td>4</td> <td>.879</td> <td>.512</td> <td>7</td> <td>•</td> <td>9</td> <td>4.</td> <td>•</td> <td>Τ.</td> <td>•</td> <td></td>	4	.879	.512	7	•	9	4.	•	Τ.	•	
4.2130 3.3402 2.9151 2.5441 2.2203 1.9 4.2130 3.6768 3.2088 2.8004 2.4440 2.13 4.5495 3.9705 3.4651 3.0241 2.6392 2.3 9 4.8432 4.2268 3.6888 3.2193 2.8096 2.4 1 5.0995 4.4505 3.6881 3.2093 2.9583 2.5 2 5.5184 4.8161 4.2031 3.682 3.2013 2.7 3 5.6888 4.9648 4.3229 3.7814 3.002 2.8 4 5.6888 4.9648 4.4450 3.9665 3.4617 3.0 5 6.0805 5.3067 4.5450 3.9665 3.4617 3.0 6 6.0805 5.3067 4.5450 3.9665 3.4617 3.0 6 6.0805 5.3067 4.5450 3.9665 3.4617 3.0 6 6.0805 5.3329 4.7025 4.1049 <	س 	.385	.954	ທຸ	•	o.		1.4959	•	1.1393	Ö
4.2130 3.6768 3.2088 2.8004 2.4440 2.13 4.5495 3.9705 3.4651 3.0241 2.6392 2.3 4.8432 4.5268 3.6888 3.2193 2.8096 2.4 5.0995 4.4505 3.8841 3.3897 2.9583 2.5 5.0995 4.4505 3.8841 3.3897 2.9583 2.5 5.5184 4.8161 4.2031 3.6682 3.2013 2.7 5.5184 4.9648 4.3329 3.7814 3.3002 2.8 5.6888 4.9648 4.3329 3.7814 3.3002 2.8 5.6888 4.9648 4.4462 3.8803 3.3864 2.9 6.0805 5.3067 4.6313 4.0418 3.5274 3.0 6.1794 5.3929 4.7765 4.1075 3.5848 3.1 6.4640 5.6413 4.9233 4.2967 3.7498 3.2 6.5517 5.721 4.9947 4.3590 3.8042 3.3 6.5577 5.7231 4.9947 4.3590 3.8456 3.3 6.5918 5.7854 5.0237 4.4681 3.9109 3.4 6.7417 5.8836 5.1348 4.4813 3.9109 3.4 6.8275 5.9334 5.1782 4.5181 3.9109 3.4 6.8275 5.9334 5.1782 4.5481 3.9109 3.4 6.8275 5.9334 5.1782 4.5481 3.9109 3.4 6.8275 5.9334 5.1782 4.5481 3.9608 3.4 6.8275 5.9334 5.1782 4.5481 3.9698 3.4 6.8275 5.9334 5.1782 4.5481 3.9698 3.4 6.8275 5.9334 5.1782 4.5481 3.9698 3.4 6.8275 5.9334 5.1782 4.5481 3.9698 3.4 6.8275 5.9334 5.1782 4.5481 3.9698 3.4 6.8275 5.9334 5.1782 4.5481 3.9698 3.4 6.8275 5.9334 5.1782 4.5481 3.9698 3.4 6.8275 5.9334 5.1782 4.5481 3.9698 3.4 6.8275 5.9334 5.1782 4.5481 3.9698 3.4 6.8275 5.9334 5.1782 4.5481 3.9698 3.4 6.8275 6.9338 5.2102 4.5481 3.9092 3.4 6.9422 5.9713 5.2102 4.5481 3.9092 3.4 6.9422 5.9713 5.2102 4.5481 3.9698 3.4 6.9422 5.9713 5.2102 4.5481 3.9092 3.4 6.9422 5.9713 5.2102 4.5481 3.9092 3.4 6.9422 5.9713 5.2102 4.5481 3.9092 3.4 6.9422 5.9713 5.2102 4.5481 3.9092 3.4 6.9422 5.9713 5.2102 4.5481 3.9092 3.4 6.9422 5.9713 5.2102 4.5481 3.9092 3.4 6.9422 5.9713 5.2102 4.5481 3.9092 3.4 6.9422 5.9713 5.2102 4.5481 3.9092 3.4 6.9422 5.9713 5.2102 4.5481 3.9092 3.4 6.9422 5.9713 5.2102 4.5881 3.9092 3.4 6.9422 5.9713 5.9713 5.9713 3.9792 3.4	9	.827	.340			7	.937	9.	.475	1.2880	
8 4.5495 3.9705 3.4651 3.0241 2.6392 2.3 9 4.8432 4.2268 3.6888 3.2193 2.8096 2.4 1 5.0995 4.4505 3.6884 3.2193 2.8096 2.4 2 5.0995 4.4505 3.6884 3.2193 2.9696 2.4 2 5.5184 4.8161 4.0544 3.5384 3.0881 2.9 3 5.6888 4.9648 4.329 3.7814 3.3002 2.8 4 5.8375 5.2078 4.4462 3.8803 3.3664 2.9 5 5.8375 5.2078 4.4462 3.8803 3.3664 2.9 6 6.0805 5.3067 4.6410 3.648 3.1 6 6.1794 4.5450 3.9665 3.4617 3.0 6 6.0805 5.3067 4.6313 4.0418 3.5274 3.0 6 6.3409 5.5339 4.8796 4.2149	7	213	676	•	•	4	.132	ω.	.624	.417	Ġ
4.8432 4.2268 3.6888 3.2193 2.8096 2.4 5.0995 4.4505 3.8841 3.3897 2.9583 2.5 5.0995 4.4505 3.8841 3.3897 2.9583 2.5 5.5184 4.8161 4.2031 3.6882 3.2013 2.7 4 5.6888 4.9648 4.4462 3.8803 3.3864 2.9 5.9673 5.2078 4.4462 3.8803 3.3864 2.9 6 6.0805 5.3067 4.4462 3.8803 3.3864 2.9 6 6.0805 5.3067 4.4462 3.8803 3.3864 2.9 6 6.0805 5.3067 4.4462 3.8803 3.3864 2.9 6 6.0805 5.3067 4.6410 3.6417 3.0 7 6.2656 5.4682 4.7765 4.1649 3.6785 3.2 9 6.4066 5.5912 4.8796 4.2149 3.7166 3.7 1 6.4640 5.6413 4.9614 4.3590 3.8645 3.2 </td <td>- 00</td> <td>.549</td> <td>.970</td> <td>•</td> <td>•</td> <td>9</td> <td>.303</td> <td>0</td> <td>.754</td> <td>.531</td> <td>щ.</td>	- 00	.549	.970	•	•	9	.303	0	.754	.531	щ.
1 5.0995 4.4505 3.8841 3.3897 2.9583 2.5 1 5.3232 4.6457 4.0544 3.5384 3.0881 2.6 2 5.5184 4.8161 4.2031 3.5682 3.2013 2.7 3 5.8375 5.0946 4.4462 3.8803 3.3864 2.9 4 5.9673 5.2078 4.5450 3.9665 3.4617 3.0 5 6.0805 5.3029 4.7462 3.9665 3.4617 3.0 6 6.0805 5.3078 4.5450 3.9665 3.4617 3.0 6 6.1794 5.3929 4.7462 3.9665 3.4617 3.0 7 6.1794 4.5450 3.9665 3.4617 3.0 8 6.2656 5.4682 4.7722 4.1649 3.6348 3.1 9 6.3409 5.5319 4.8796 4.2586 3.7186 3.7 1 6.4640 5.6413 4.9614	0	.843	.226	.68	•	.809	.452	2.1399	1.8676	~	1.4225
1 5.3232 4.6457 4.0544 3.5384 3.0081 2.6 3 5.5184 4.8161 4.2031 3.6682 3.2013 2.8 4 5.6888 4.9648 4.3329 3.7814 3.3002 2.8 5.6888 4.9648 4.4462 3.8803 3.3864 2.9 5.9673 5.2078 4.5450 3.9665 3.4617 3.0 6 6.0805 5.3067 4.6313 4.0418 3.5274 3.0 7 6.1794 5.3929 4.7065 4.1075 3.5848 3.1 8 6.2656 5.4682 4.7722 4.1649 3.6348 3.1 9 6.2656 5.4682 4.7722 4.1649 3.6348 3.1 9 6.3409 5.5339 4.8296 4.2149 3.6785 3.2 1 6.4666 5.5912 4.9796 4.2586 3.7186 3.7 2 6.5577 5.7231 4.9947 4.3590 3.8042 3.3 3 6.5577 5.7854 5.0490 </td <td>91</td> <td>.099</td> <td>.450</td> <td>.884</td> <td>•</td> <td>.958</td> <td>.581</td> <td>7</td> <td>996.</td> <td>.716</td> <td>4</td>	91	.099	.450	.884	•	.958	.581	7	996.	.716	4
2 5.5184 4.8161 4.2031 3.6682 3.2013 2.7 3 5.6888 4.9648 4.3329 3.7814 3.3002 2.8 4 5.8375 5.0946 4.4462 3.8803 3.3864 2.9 5 5.9673 5.2078 4.5450 3.9665 3.4617 3.0 6 6.0805 5.3067 4.5450 3.9665 3.4617 3.0 6 6.1794 5.3929 4.7722 4.1649 3.5548 3.1 8 6.2656 5.5339 4.7722 4.1649 3.6348 3.1 9 6.4660 5.5339 4.8296 4.2149 3.6785 3.2 1 6.4660 5.5912 4.8796 4.2586 3.7166 3.2 2 6.5140 5.6849 4.9614 4.3500 3.7789 3.2 3 6.5577 5.7231 4.9947 4.3643 3.8456 3.3 4 6.5958 5.7563 5.0237 4.3843 3.9109 3.4 5 6.7977	11	.323	.645	.054	.5		1 •	.352	.052	.791	
3 5.6888 4.9648 4.3329 3.7814 3.3002 2.88 4 5.8375 5.0946 4.4462 3.8803 3.3864 2.9 5 9.673 5.2078 4.5450 3.9665 3.4617 3.0 6 6.0805 5.3067 4.6313 4.0418 3.5274 3.0 7 6.1794 5.3929 4.7722 4.1649 3.5848 3.1 8 6.2656 5.5339 4.7722 4.1649 3.6348 3.1 9 6.4066 5.5339 4.8296 4.2149 3.648 3.1 1 6.4066 5.5312 4.8796 4.2586 3.7166 3.2 2 6.4066 5.5912 4.9614 4.3500 3.7789 3.2 3 6.5140 5.6849 4.9614 4.3590 3.8042 3.3 4 6.5577 5.7231 4.9947 4.3643 3.8456 3.3 5 6.6291 5.7854	12	.518	.816	.203	9.	•	•	3	2.1280	1.8571	1.6208
4 5.8375 5.0946 4.4462 3.8803 3.3864 2.9 5.9673 5.2078 4.5450 3.9665 3.4617 3.0 6 6.0805 5.3067 4.6313 4.0418 3.5274 3.0 7 6.1794 5.3929 4.7065 4.1075 3.5848 3.1 8 6.2656 5.4682 4.7722 4.1649 3.5848 3.1 9 6.2656 5.5339 4.8296 4.2149 3.6348 3.1 9 6.4066 5.5912 4.8796 4.2586 3.7166 3.2 1 6.4640 5.6413 4.9233 4.2586 3.7166 3.2 2 6.5140 5.6849 4.9614 4.3590 3.7789 3.2 3 6.5577 5.7231 4.9947 4.3643 3.8263 3.3 4 6.5958 5.7563 5.0237 4.3843 3.9109 3.4 5 6.7977 5.7854 5.0490	13	.688	.964	.332		•	•	.513	.193	.914	•
5 5.9673 5.2078 4.5450 3.9665 3.4617 3.0 6 6.0805 5.3067 4.6313 4.0418 3.5274 3.0 7 6.1794 5.3929 4.7025 4.1075 3.5848 3.1 8 6.2656 5.4682 4.7722 4.1649 3.6348 3.1 9 6.3409 5.5339 4.8296 4.2149 3.6348 3.1 1 6.4066 5.5912 4.8796 4.2149 3.6785 3.2 2 6.4640 5.6413 4.9233 4.2586 3.7166 3.2 3 6.5140 5.6849 4.9614 4.3300 3.7789 3.2 4 6.5958 5.7231 4.9947 4.3843 3.8263 3.3 5 6.6291 5.7854 5.0490 4.4064 3.8456 3.3 6 6.7417 5.8836 5.1348 4.4813 3.9109 3.4 6 6.727 5.9334	14	.837	.094	.446	ω.	•	•	.579	.251	.964	•
6.0805 5.3067 4.6313 4.0418 3.5274 3.0 6.1794 5.3929 4.7065 4.1075 3.5848 3.1 6.266 5.4682 4.7722 4.1649 3.6348 3.1 6.3409 5.5339 4.8296 4.2149 3.6785 3.2 6.4640 5.6413 4.9233 4.2967 3.7166 3.2 6.5140 5.6849 4.9614 4.3300 3.7789 3.2 6.5577 5.7231 4.9947 4.3590 3.8042 3.3 6.5958 5.7563 5.0237 4.3843 3.8263 3.3 6.6291 5.7854 5.0490 4.4064 3.8456 3.3 6.7417 5.8836 5.1348 4.4813 3.9109 3.4 6.742 5.9334 5.1782 4.5192 3.9440 3.4 6.8422 5.9718 5.2113 4.5481 3.9692 3.4	15	.967	.207	. 545	ο.	.461	•	.636	.301	.008	•
6.1794 5.3929 4.7065 4.1075 3.5848 3.1 6.2656 5.4682 4.7722 4.1649 3.6348 3.1 6.3409 5.5339 4.8296 4.2149 3.6785 3.2 6.4066 5.5912 4.8796 4.2586 3.7166 3.2 6.4640 5.6413 4.9233 4.2967 3.7498 3.2 6.5140 5.6849 4.9614 4.3300 3.7789 3.2 6.5577 5.7231 4.9947 4.3590 3.8042 3.3 6.5958 5.7563 5.0237 4.3843 3.8263 3.3 6.6291 5.7854 5.0490 4.4064 3.8456 3.3 6.7417 5.8836 5.1348 4.4813 3.9109 3.4 6.725 5.9586 5.2002 4.5384 3.9608 3.4 6.8422 5.9738 5.2113 4.5481 3.9692 3.4	16	.080	.306		.041	.5	.078		.344	.046	. 7
6.2656 5.4682 4.7722 4.1649 3.6348 3.1 6.3409 5.5339 4.8296 4.2149 3.6785 3.2 6.4066 5.5912 4.8796 4.2586 3.7166 3.2 6.4640 5.6413 4.9233 4.2967 3.7498 3.2 6.5140 5.6849 4.9614 4.3300 3.7789 3.2 6.5577 5.7231 4.9947 4.3590 3.8042 3.3 6.5958 5.7563 5.0237 4.3843 3.8263 3.3 6.6291 5.7854 5.0490 4.4064 3.8456 3.3 6.7417 5.8836 5.1348 4.4813 3.9109 3.4 6.7987 5.9334 5.1782 4.5192 3.9440 3.4 6.8422 5.9738 5.2113 4.5481 3.9608 3.4	17	.179	.392	•	.107	ĸ.	.128	•	.382	.079	æ
6.3409 5.5339 4.8296 4.2149 3.6785 3.2 6.4066 5.5912 4.8796 4.2586 3.7166 3.2 6.4640 5.6413 4.9233 4.2967 3.7498 3.2 6.5140 5.6849 4.9614 4.3300 3.7789 3.2 6.5577 5.7231 4.9947 4.3590 3.8042 3.3 6.5577 5.7854 5.0490 4.4064 3.8263 3.3 6.6291 5.7854 5.0490 4.4064 3.8456 3.3 6.7417 5.8836 5.1348 4.4813 3.9109 3.4 6.7987 5.9334 5.1782 4.5192 3.9440 3.4 6.8422 5.9738 5.2113 4.5481 3.9698 3.4	18	.265	.468	•	.164	9	.172	2.7685	2.4161	2.1086	1.8402
6.4066 5.5912 4.8796 4.2586 3.7166 3.2 6.4640 5.6413 4.9233 4.2967 3.7498 3.2 6.5140 5.6849 4.9614 4.3300 3.7789 3.2 6.5577 5.7231 4.9947 4.3590 3.8042 3.3 6.5958 5.7563 5.0237 4.3843 3.8263 3.3 6.6291 5.7854 5.0490 4.4064 3.8456 3.3 6.7417 5.8836 5.1348 4.4813 3.9109 3.4 6.7987 5.9334 5.1782 4.5192 3.9440 3.4 6.8422 5.9738 5.2113 4.5481 3.9698 3.4 6.8422 5.9738 5.2113 4.5481 3.9692 3.4	19	.340	.533	•	.214	9.	.210	•	.445	.133	æ
6.4640 5.6413 4.9233 4.2967 3.7498 3.2 6.5140 5.6849 4.9614 4.3300 3.7789 3.2 6.5577 5.7231 4.9947 4.3590 3.8042 3.3 6.5958 5.7563 5.0237 4.3843 3.8263 3.3 6.6291 5.7854 5.0490 4.4064 3.8456 3.3 6.7417 5.8836 5.1348 4.4813 3.9109 3.4 6.7977 5.9334 5.1782 4.5192 3.9440 3.4 6.8422 5.9738 5.2113 4.5481 3.9608 3.4	20	.406	.591	•	.258		.243	•	.470	.156	ω.
6.5140 5.6849 4.9614 4.3300 3.7789 3.2 6.5577 5.7231 4.9947 4.3590 3.8042 3.3 6.5958 5.7563 5.0237 4.3843 3.8263 3.3 6.6291 5.7854 5.0490 4.4064 3.8456 3.3 6.7417 5.8836 5.1348 4.4813 3.9109 3.4 6.7987 5.9334 5.1782 4.5192 3.9440 3.4 6.8422 5.973 5.2102 4.5384 3.9608 3.4		4	5.641		.29		.272	.856	4.	•	1.8
6.5577 5.7231 4.9947 4.3590 3.8042 3.3 6.5958 5.7563 5.0237 4.3843 3.8263 3.3 6.6291 5.7854 5.0490 4.4064 3.8456 3.3 6.7417 5.8836 5.1348 4.4813 3.9109 3.4 6.7987 5.9334 5.1782 4.5192 3.9440 3.4 6.8422 5.973 5.2102 4.5384 3.9608 3.4		ູ	5.684	•	e.	•	.29	2.8782	2.5119	2.1922	- i
6.5958 5.7563 5.0237 4.3843 3.8263 3.3 6.6291 5.7854 5.0490 4.4064 3.8456 3.3 6.7417 5.8836 5.1348 4.4813 3.9109 3.4 6.7987 5.9334 5.1782 4.5192 3.9440 3.4 6.822 5.9386 5.2002 4.5384 3.9608 3.4 6.8422 5.9718 5.2103 4.5481 3.9692 3.4		'n	5.723	•	۳,	•	.32	.897	'n	•	1.9
6.6291 5.7854 5.0490 4.4064 3.8456 3.3 6.7417 5.8836 5.1348 4.4813 3.9109 3.4 6.7987 5.9334 5.1782 4.5192 3.9440 3.4 6.8275 5.9586 5.2002 4.5384 3.9608 3.4 6.8422 5.9718 5.2113 4.5481 3.9692 3.4		ທ	5.756	•	e.	•	.33	.914	'n	•	1.9
6.7417 5.8836 5.1348 4.4813 3.9109 3.4 6.7987 5.9334 5.1782 4.5192 3.9440 3.4 6.8275 5.9586 5.2002 4.5384 3.9608 3.4 6.8422 5.9718 5.2113 4.5481 3.9692 3.4		9.	5.785	•	4.	•	.35	.929	• 5	•	1.9
6.7987 5.9334 5.1782 4.5192 3.9440 3.4 6.8275 5.9586 5.2002 4.5384 3.9608 3.4 6.8422 5.9713 5.2113 4.5481 3.9692 3.4	30	.741	.883		4.	6.	4.		ı •		1.
6.8422 5.9713 5.2113 4.5481 3.9608 3.4 6.8422 5.9713 5.2113 4.5481 3.9692 3.4	35	. 798	.933	•	'n	σ.	4.	•	•	•	ij
6.8422 5.9713 5.2113 4.5481 3.9692 3.4	40	.827	.958	•	'n	σ.	4.	3.0167	2.6328	2.2977	2.0053
6 8496 F 9778 F 9170 A FE30 3 9735 3 A	45	.842	.971	•	ı,	٠,	4	•	•	•	7
Fig 66/6:6 0666:# 0/17:6 0//6:6 06#0:0	20	.849	.977	•	ĸ.	σ,	4.	•	•	•	7

Notes:

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum of Agreement on Criteria/Standards for EA/LCC for MILCON Design (Discount Rate = 10%).
<3> Covers Costs such as Routine Maintenance & Repair and Custodial.

Present Worth Factors--Annually Recurring Costs Non-Zero Differential Escalation (e = -3%) Table NE-2-4.

					- 1	- 1				
Number				Be	Beneficial O	Occupancy D	Date			
or Payments	Oct 1993	Oct 1994	Oct 1995	Oct 1996	Oct 1997	Oct 1998	Oct 1999	Oct 2000	Oct 2001	Oct 2002
1	.881	'			. 533	.47	.414	.365	.322	.284
0	. 65	4	•	•	•	0.8848	0.7802	0.6880	0.6067	0.5350
m	345	0	•	•	.41	.25	.102	.972	.857	.756
4	949	9	•	•	. 78	'n	.387	.223	.078	.951
'n	483		2.7084	2.3883	-	₩.	.637	. 444	.273	.123
9	953	48	3.0740	.710	ω.	107	.858	.639	.445	.27
	.367	85	39	.995	.64	.328	.053	.811	.597	.40
· cc	4.7334	4.1740	9	3.2457	Ø	2.5239	2.2256	1.9626	B	
, O	.055	.45	.93	.466	.05	.695	.377	960.	.848	.63
10	.340	.70	. 15	.661	. 22	.847	.510	.214	.952	.72
	.590	٠,	.347	.83	.380	.981	.628	.31	.044	.802
	.811	٦.	.519	.98	.514	.099	.732	.40	.125	.873
	O	5.2970	4.6710	Н	3.6322	3.2029	2.8244	2.4906	2.1963	1.9367
	.178	7	.804	.23	.736	.294	.905	. 56	.259	.992
15	.330	r.	.922	.34	.827	.375	.976	. 62	.314	.041
16	6.4641	5.7001	.026	4	908	.446	.039	.68	.363	.084
17	.582	•	.118	ŭ	.979	. 509	.094	.72	.406	.122
18		5.8958	~	4.5846		3.5650	3.1437	2.7721	2.4445	2.1556
19	.777	•	.270	9	.098	.613	.186	.81	.478	.185
20	.858	6.0479	.333		.147	.656	. 224	.84	.507	.211
	.929		ا	1.	4.1902	۳	.258	.873	.533	.234
	992	6.1662	5.4374	σ	4.2282	3.7285	3.2878	2.8993	2.5566	2.2545
	.048	ď	4.	Φ,	.26	۲.	.313	.922	.576	.272
	960.	Ġ	ະ	Φ.	.291	۲.	.336	.942	. 594	.288
25	•	•	5.5520	Φ.	.317	8	.357	.960	.610	.302
30	. 290	428	. 668	.99	4.4081	.887	.427	.022	.665	€.
200	370	.499	.731	.05	.456	.929	.465	.055	.694	ų.
40		E	5.7642	83	4.4823	3.9525		3.0735	2.7103	2.3900
45	.435	.556	.781	.09	.496	.964	.496	.082	.718	۳.
20	.447	.567	. 791	.106	. 503	.971	.501	.088	. 723	₹.

^{~1} Notes:

Data Based on Assumed DOS of Apr 1993. Authorized Period of Use of Table is Oct 1992 through Sep 1993. Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum of Agreement on Criteria/Standards for EA/LCC for MILCON Design (Discount Rate = 10%). Covers Costs such as Routine Maintenance & Repair and Custodial. **\$**

⁴³

Present Worth Factors--Annually Recurring Costs Non-Zero Differential Escalation (e = -2%) Table NE-2-5.

Number				Be	Beneficial O	Occupancy D	Date			
Payments	Oct 1993	Oct 1994	Oct 1995	Oct 1996	Oct 1997	Oct 1998	Oct 1999	Oct 2000	Oct 2001	Oct 2002
т	.890	.7	.707	.630	.561	.50	.445	.396	.353	.315
7	1.6846	1.5009	1.3371	1.1913	1.0613	0.9455	0.8424	0.7505	0.6686	
ო	.391	٦.	.898	.691	.506	.34	.19	.065	.949	.845
4	.021	9	.398	.136	.903	.69		.346	.199	.068
Ŋ	. 583	٠.	.843	. 533	.257	.01	. 79	. 596	. 422	.266
و	.083	.637	.240	.887	.572	2	.041	.818	.620	.443
7	.528	.034	. 594	.202	.852	ı.	.264	.017	.797	.601
ω	4.9254	4.3881	3.9094	3.4829		2.7645	46	19	1.9548	1.7416
თ	.279	.703	.190	.733	.325	6	.639	.351	.095	.866
10	. 594	.983	.440	.955	.524		.797	. 492	.220	.978
	.874	.233	.662	4.1542	.701	3.2972	.937	2.6171	۳.	.077
	.124	.456	.861	ı.	.858	.437	.062	.72	4.	.165
	.347	.655	.038	4.	.998	.562	.174	.82	'n	.244
14	6.5459	5.8318	5.1956	4.6288	4.1239	3.6740	3.2732	2.9161	2.5980	2.3146
	.722	.989	.336		.235	.773	.361	.99	•	.377
16		.12		.865	.334	86	3.4404	.065		.432
17	•	.25	•	.964	.422	.94	.510	.127	•	.482
18	7.1456	6.3661	5.6716	5.0529	4.5017	0	3.5731	3.1833	2.8360	2.5266
19	•	.46	•	.131	.571	.07	.628	.232	•	.566
20	•	. 55	•	.201	.634	. 12	.678	.277	•	.601
	7.4447	.632		7	ľO	4.1784	3.7226	.316	၂ ၈	.632
22	2	6.7027	5.9715	5.3200	.73	4.2226	62	S	2.9859	9
	. 593	.765	•	۳.	3	4.2620	3.7971	.382	0	.685
	. 65	.820	•	4	.823	7	.828	.410	•	.707
	.711	.870	•	4	œ	r.	.856	.435	•	.726
30	.911	9	.279	S.	.984	.44	.956	. 524	.139	.797
35	.023	7	.368	ø.	.054	.50	.012	.574	.184	.837
40	8.0862	7.2041	Н	М	5.0943	4.5385	.04	3.6023		2.8592
45	.121	ç	.446	۲.	.116	. 55	61	.618	.223	.871
20	.141	7	.461		.129	. 56	.071	.626	.231	.878

Notes:

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum of Agreement on Criteria/Standards for EA/LCC for MILCON Design (Discount Rate = 10%).
<3> Covers Costs such as Routine Maintenance & Repair and Custodial.

NON-ENERGY STUDIES

Table NE-2-6. Present Worth Factors--Annually Recurring Costs Non-Zero Differential Escalation (e = -1%)

Number				Be	Beneficial O	Occupancy D	Date			
or Payments	Oct 1993	Oct 1994	Oct 1995	Oct 1996	Oct 1997	Oct 1998	Oct 1999	Oct 2000	Oct 2001	Oct 2002
-	96	8		.656		.531	0.4783	7.	.387	48
8	.71	5	1.3851	7	1.1219	1.0097	0.9088	0.8179	0.7361	99.
· m	.43	7	•		•	.440	•	٦.	•	.944
4	60		•	~	•	.827	•	4.	1.3323	99
ı Ko		3.3170	2.9853		•	.176	•	1.7628	•	.427
9	217	.795	.415	.074	٦.	.490	.24	9	.815	.633
, ,	695	225	.803	.42	٥.	.772	.49	7	.021	.819
. 00	125	.613	151	.73	ຕ	.026	.72	4.	.206	.985
6	513	96	4.4657	0		3.2555	2.9299	2.6370	2.3733	3
10	5.8619	275	.748	4.2733	æ	.461	.11	æ	. 523	.271
11	.175	.558	5.0023	4.5021	4.0519	.646	7	.953	2.6584	.392
12	458	.812	7	4.7080	4.2372	.813	4.	.088		.502
13	712	.041	4	•	4.	3	ស	.210	æ	.600
14	94	~	5.6223	090	4.5540	0	3.6888	3.3199	2.9879	œ
15	147	.432			•	4.2202		.418	•	. 768
16	.332	1 2	, .	۳.	4.8107	4.3296	æ	.50	.156	.840
17	499				σ,	. 42	σ.	3.5868	.228	.905
18		6.8842	6.1958	ູເດ	01	ະ	4.0651	S	3.2927	2.9634
19	.784	٥.	•	.674	Τ.	σ	ᅻ.	.72	.350	.015
20	.905	Τ.	•	. 763	. 18	99.	4.2015	.78	.403	.062
	.015	7		5.8431	5.2588	4.7329	59	3.8337	.450	.105
	11	7.3023	6.5721	4	3	4.7911	4.3120	α	3.4927	3.1434
	.202	۳.	•	5.9795	•	.843	59	o.	3.5308	.177
	.282	4.	•	.037	.433	.890	.401	96.	s.	. 208
25	.353	7.5185	6.7667	.090	.481		4.4396	.99	.5	.236
30	.618		6.9810	?	.654	.089	5	.12	3.7100	.339
32	.774	ω.	•	e.	.757	.181	9	7	•	.399
40	8.8670	7.9803	7.1822	6.4640	5.8176	5.2359	4.7123	41	3.8169	3.4352
45	.921	0	•	'n	.853	.268		.26	.840	.456
20	.953	0	•	.527	.874	.287	4.7583	4.2825	æ	.468
						4				

Notes:

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum of Agreement on Criteria/Standards for EA/LCC for MILCON Design (Discount Rate = 10%).
<3> Covers Costs such as Routine Maintenance & Repair and Custodial.

Table NE-2-7. Present Worth Factors--Annually Recurring Costs Non-Zero Differential Escalation (e = 1%)

Number				Be	Beneficial O	Occupancy D	Date			
Payments	Oct 1993	Oct 1994	Oct 1995	Oct 1996	Oct 1997	Oct 1998	Oct 1999	Oct 2000	Oct 2001	Oct 2002
1	.918	.843		.710	.652	. 59	.550	. 505	•	•
8	76	1.6171	1.4848	1.3633	1.2518	1.1494	1.0553	69	0.8897	0.8169
m	.535	.327	7	.962	.802	.65	.519	.394	•	Ξ.
4	.246	.980		.512	.307	.11	.945	.78	•	ដ
ហ	.898	.579	.286	.017	.771	. 54	.336	. 144	•	₩.
9	.497	129	.792	3.4817	.196	.935	. 695	.474	.272	.086
	048	635	. 255	.907	.587	.29	.024	.777	.550	.341
- 00	.553	960	.681	.298	.946	.62	.327	.055	.805	.575
o 0	0	52	5.0727		4.2766	3.9267	3.6054	3.3104	3.0396	2.7909
10	.442	918	.431	.987	.579	. 20	.860	. 544	.254	.988
11	.833	7			.857	4	4.0949	3.7599	.452	.169
	.193	9	.06	.567	.112	9	.310	.957	.633	.336
	7.5226		က	5.8231	5.3467	4.9092	4.5076	4.1388	3.8001	
	.825	٦.	. 59	.057	.561	٦.	.688	.305	.953	.629
15	.103	4.	.83	.272	.759	7	.855	.458	.093	.758
16	358	.67	.046	4	.940	4	900	· •	•	.876
17	592	88	.244	9	.107	•	.148	.727	.340	.985
18		80	7.4256		6.2602	7	5.2777	4.8459	4	4.0854
19	.005	.26	. 592	6.	.400	.87	.396	.954	.549	.177
20	186	4.	.745		. 529	.99	. 504	.054	.640	.261
21	.353	.588		.240	.647	6.1039	5.6045		4.7249	4.3384
22		8.7285	014		6.7565	.20	5.6961	m	.802	.40
23	.646	.857	.132	.467	.856	95	.78	•	4.8731	.474
24	.775	.975	.241	.567	.947	.379	.857	•	.938	.534
25	893	.084	.34	.658	.032	.456	.928	•	.998	.589
30	0.355	508	.730	ր •	.36	.7	.204	٠.	.231	.803
35	0.656	.784	.984	•	.57	6	6.3854	•	.383	.942
40	10.8531	9.9651	9.1498	8.4011	7.7138	œ	3	5.9711	5.4825	5.0340
45	0.981	0.082	.257	•	88	ᅼ	. 580	•	.547	.093
20	1.065	.159	.328	•	.86	7	. 630	6.0877	. 589	.132

Notes:

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum
of Agreement on Criteria/Standards for EA/LCC for MILCON Design (Discount Rate = 10%).
<3> Covers Costs such as Routine Maintenance & Repair and Custodial.

Present Worth Factors--Annually Recurring Costs Non-Zero Differential Escalation (e = 2%) Table NE-2-8.

Number				Be	Beneficial O	Occupancy D	Date			
or Payments	Oct 1993	Oct 1994	Oct 1995	Oct 1996	Oct 1997	Oct 1998	Oct 1999	Oct 2000	Oct 2001	Oct 2002
-	.927	.859	797.		Ψ.	•	.58	. 5	. 506	.470
7	1.7871		1.5366	1.4249	1.3212	1.2251		1.0534	0.9768	0.9058
m	.584	.396	.222	•	ο.	•	.64	ນ	.412	.309
4	.323	.082	.857	•	4.	•	.11	ō.	.816	.684
ហ	.009	717	.447	3.1966	ο.	•	. 54	٠.	.191	.032
9	۳	.307		. 703	3.4341	=	.952		.538	.354
7	7	.853	•	.173	.86	5	.327	•	.861	.653
- σο	5.7810	36	4.9707	0		3.9632	3.6749	3.4077	ស	2.9300
თ	7	.830	•	.013	.64	ų.	.997	•	.436	.186
10	6.7578	.266	•	.388	.99	9	.295	.98	. 693	. 425
11	.193	9	.185	.73	۳.	.931	.572		.931	9.
12	59	7.0452	6.5328	6.0577	┙	5.2086	2	.47	S	3.8508
13	.972	۳,	.855	.35	ω.	.465	.068	4.6994	.357	•
14	.319	۲.	.153	.63	.15	.703	.288	•	.547	?
15	.642	•	.430	.89	.38	.924	.493	•	23	
16	.940	.290	.687	.12	.61	. 12	.68	•	.886	.531
17	.217	.547	.925	.34	.81	6.3193	.85	4.	.038	.671
18	9.4747	8.7857	8.1467			6.4954	6.0230	5.5850	5.1788	4.8021
19	.712	.006	.351	.74	.18	9.	.17		.309	.922
20	.933	.211	. 541	.92	.34	.810	.31	æ	. 429	.034
21	0.138			.083	7.4957		6.4450		5.5417	.138
22	32	9.5774	8.8808	3	7.6361	7.0807	9	6.0882		5.2349
23	0.504	•	•	.375	.76	•	.677	•	.741	.324
24	0.668	•	•	.505	.88	•	.781	•	.831	.406
25	.819	•	•	.626	.99	•	.877	• 1	.913	. 483
30	.426	0.595	9.8249	.110	.447		.2		.245	.791
35	1.842	0.981	Ö	.442	.755	•	'n	ō.	.473	.002
40	12.1280	11.2459	10.4281	9	8.9664	8.3143	7.7096	7.1489	6.6290	4
45	2.323	1.427	ö	.825	.111	•	æ	Ċ	. 735	. 246
20	2.457	1.551	o	.932	.210	•	o.	ų.	.809	.314

[~]1 Notes:

Data Based on Assumed DOS of Apr 1993. Authorized Period of Use of Table is Oct 1992 through Sep 1993. Tabulated Period of Use of Table is Oct 1992 through Sep 1993. Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum of Agreement on Criteria/Standards for EA/LCC for MILCON Design (Discount Rate = 10%). Covers Costs such as Routine Maintenance & Repair and Custodial. **\$**

Present Worth Factors--Annually Recurring Costs Non-Zero Differential Escalation (e = 3%) Table NE-2-9.

1994 Oct 1995 Oct 1996 Oct 1997 Oct 1998 Oct 1999 Oct 2000 Oct 1996 Oct 1995 Oct 1997 Oct 1998 Oct 1999 Oct 2000 Oct 2000 Oct 1998 1.5897 1.4886 1.3938 1.3051 1.2221 1.1443 1.6624 1.6655 2.3995 2.7937 2.6159 2.4494 2.2936 2.1476 2.1465 2.9935 2.9935 2.7937 2.6159 2.4494 2.2936 2.1476 2.1476 2.2936 2.9935 2.9936 3.6147 3.1693 2.9676 2.7787 2.6019 2.2902 4.7550 4.4561 4.1726 3.9970 3.6584 3.4256 3.7938 5.7623 5.3956 4.7917 4.6259 4.3324 4.0567 3.7986 3.7986 3.1583 5.7623 5.3956 5.0522 4.7307 4.4297 4.1478 4.297 7.4432 6.4917 6.2922 4.7307 4.4297 4.1478 4.1478 6.5918 6.5912 6.4997 6.0893 6.2990 6.4997 6.0893 6.4997 6.0893 6.4997 6.0893 6.4997 6.0893 6.4999 6.4999 7.3481 6.0993 6.4999 7.3481 6.0993 6.4990 6.4999 7.3481 6.6299 6.4990 6.499	•									1
2.9364 0.8768 0.8210 0.77887 0.17198 0.50740 0.5311 0.5910 2.6341 2.4665 2.1626 2.0249 1.8961 1.7754 1.6624 1.6624 2.6341 2.4665 2.3095 2.1626 2.0249 1.8961 1.7754 1.6624 1.6624 3.4029 3.1863 2.9835 2.7937 2.6159 2.4494 2.7937 2.6179 2.1476 2.6624 1.6624 1.6624 1.6624 1.6624 1.6624 1.6624 1.6624 1.6624 1.6624 2.6017 2.4494 2.2937 2.4629 3.6674 3.4266 3.9070 3.6584 3.4266 3.6677 4.4748 4.6769 3.6677 4.4748 4.6769 3.6677 4.4748 4.6769 3.6962 3.3627 4.4748 4.6769 3.6962 3.3667 4.4748 4.6769 3.6677 4.4748 4.6769 3.6677 4.4748 4.6769 3.6677 4.4748 4.6769 3.6679 4.6769 3.6679	ct 199	Oct 199	199	19	19	- '	199	200	200	2 2
1.8131 1.6624 1.5221 1.7221 1.1443 1.16978 1.5897 1.4486 1.5938 1.5936 2.1626 2.1396 1.1494 1.7754 1.6624 1.5449 1.7754 1.6624 1.5449 1.7754 1.6624 1.5449 2.2936 2.1476 2.2936 2.1476 2.2936 2.1476 2.2936 2.1476 2.2936 2.1476 2.2936 2.1476 2.2936 2.1476 2.2936 2.1476 2.2936 2.1478 2.2936 2.1478 2.2936 2.1478 2.2936 3.1673 3.2936 3.6471 3.4527 3.2324 4.0567 3.2324 4.1786 3.3027 3.6864 3.7986 3.7986 3.7986 3.7986 3.7986 3.7986 3.7986 3.7986 3.7986 3.7986 3.7986 3.7986 3.3324 4.1788 4.4748 4.1788 4.4748 4.1788 4.4748 4.1788 4.4788 4.1478 4.4561 4.7307 4.1788 4.4748 4.1788 4.4919 4.7488 4.1478	. 936	0.876	.821	• 76	.71	•	.631	166.	ָ ה ני	- 0
2. 6341 2. 4665 2. 3095 2. 1626 2. 0249 1.7794 1.0524 1.7594 1.0524 1.0524 1.0524 1.0524 1.0524 1.0524 1.0524 1.0524 1.0524 1.0524 1.0524 1.0524 1.0524 1.0524 1.0524 1.0524 1.0524 1.0524 2.0619 2.	.813	1.697	. 589	48	٠. د د	7	777.	****	֓֞֝֓֓֓֓֞֜֝֓֓֓֓֓֓֓֓֓֓֓֡֝֓֓֓֓֡֝֡֡֝֓֡֓֓֡֝֜֜֡֡֝֓֡֝֡֡֡֝֓֡֝	? •
4.429 3.1863 2.9835 2.7937 2.6159 2.4494 2.2336 2.1476 2.1476 2.1478 2.6147 2.6147 2.6149 2.2494 2.2336 2.1476 2.16147 2.6019 2.6147 2.6147 2.6019 2.6147 2.6019 2.61787 2.6019 2.61787 2.6019 2.6018 2.6242 4.4561 4.1726 3.9673 3.6584 3.4256 4.4349 4.4446 4.4461 4.446	. 634	2.466	.309	91.	.02	Σ,	. / .	700.	ຄຸ	Ç.
4.1227 3.8603 3.6147 3.3846 3.1693 2.9676 2.7787 2.6019 2.5428 4.7967 4.4914 4.2056 3.9380 3.6874 3.4227 3.2330 3.0273 2.55428 5.4278 5.0824 4.7590 4.4561 4.1726 3.9070 3.5684 3.4256 3.9273 5.5121 6.1588 5.2771 4.9413 4.6269 4.7324 4.6269 3.6184 3.4256 3.9270 3.6584 3.4256 3.9270 3.6584 3.4256 3.9270 4.4789 4.4748 4.7789 4.4748 4.7789 4.4748 4.7789 4.4748 4.7574 4.0497 6.681 5.4529 5.1059 4.4748 <t< td=""><td>.402</td><td>3.186</td><td>.983</td><td>. 79</td><td>.61</td><td>7.</td><td>.293</td><td>.147</td><td>6</td><td>.88</td></t<>	.402	3.186	.983	. 79	.61	7.	.293	.147	6	.88
4.4216 4.2056 3.9380 3.6874 3.4527 3.2330 3.0273 2.54278 5.0824 4.7590 4.4561 4.1726 3.9070 3.6584 3.4256 3.4256 3.9070 3.6584 3.4256 3.7986 3.5658 3.7986 4.4748 4.7789 4.4748 4.7789 4.4748 4.7789 4.4748 4.7517 7.0903 6.5922 6.1727 6.1829 6.1829 6.1829 6.1829 6.1829 6.1829 6.1829 6.1829 6.1829 6.1829 6.1829 6.1829 6.1829 7.1861 7.027 6.6430 6.2437 6.2437 6.2437 6.2437 6.2437 6.2437 6.2437 6.2437 6.2437 6.2437 6.2445 6.2445 6.2445 6.2445<	.122	3.860	.614	.38	.16	σ.	.778	. 601	.43	.28
5.4278 5.0824 4.7590 4.4561 4.1726 3.9070 3.6584 3.4256 3.7986 6.0188 5.6358 5.2771 4.9413 4.6269 4.3324 4.0567 3.7986 3.7986 6.0188 5.6358 5.2771 4.9413 4.6269 4.3324 4.0567 3.7986 3.7086 3.7086 3.7086 3.7086 3.7086 3.7086 3.7086 4.4748	796	4.491	205	938	.687	4	.233	.027	æ	. 65
6.0188 5.6358 5.2771 4.9413 4.6269 4.3324 4.0567 3.7986 3.7986 6.5721 6.1539 5.7623 5.0522 4.7307 4.4297 4.1478 4.9418 7.0903 6.6420 6.2193 5.8235 5.4529 5.1059 4.7789 4.7789 4.7789 4.4748 4.7810 5.8810 4.7810 4.7810 5.8810 4.7810 4.7810 5.8810 5.8810 5.8810 5.8810 5.8810 5.8810 5.8810 5.8810 5.8810 5.8810 6.7810 5.7810 5.7810 5.7810 5.7810 5.7810 5.7810 5.7810 5.7810 5.7810 5.7810 5.7810 6.7810 5.7810 5.7810 6.7810 6.7810	427	5.082	759	456	.172	σ,	.658	.425	?	9
6.1532 6.1539 5.7623 5.3956 5.0522 4.7307 4.4297 4.1478 3. 7.0903 6.6391 6.2166 5.8210 5.4529 5.1037 4.7789 4.4748 4.7789 7.5754 7.0933 6.6420 6.2193 5.8235 5.4529 5.1059 4.7810 <	α[0	5.635	277	941	.626	ď	.05	. 798		ω.
7.0903 6.6391 6.2166 5.8210 5.4505 5.1037 4.7789 4.4748 4.7789 7.0903 6.6316 5.8216 5.4529 5.1059 4.7810 4.7810 4.8620 4.7810 4.7810 4.7810 4.7810 4.7810 4.7810 4.7810 4.7810 4.7810 4.7810 4.7810 4.7810 4.7810 4.7812 5.0677 4.7810 4.7812 5.0677 4.7810 4.7812 5.0677 4.7812 5.0677 4.7812 5.0677 4.7812 5.0677 4.7812 5.0677 4.7812 5.0829 5.3829 5.3829 5.3829 5.3829 5.3829 5.3829 5.3829 5.3829 5.3829 5.3829 5.3829 5.3829 5.3829 5.2829 5.3829	573	6 153	762	395	.052	,	. 42	.147	æ	.63
7.5754 7.0933 6.6420 6.2193 5.8235 5.4529 5.1059 4.7810 4.8027 8.0297 7.5187 7.0403 6.5922 6.1727 5.7799 5.4121 5.0677 4.8627 8.4551 7.5187 7.0403 6.5922 6.127 5.7799 5.4121 5.0677 4.7812 8.8534 8.2900 7.7625 7.2685 6.8959 6.0861 5.6988 5.3362 4.7816 9.2264 8.6392 8.0895 7.5747 7.0927 6.6413 6.2187 5.8229 5.3629 9.5756 8.9662 8.3957 7.8614 7.3611 6.8927 6.4541 6.0434 5.8229 9.9026 9.2724 8.6824 8.1299 7.6125 7.1281 6.6449 6.2497 6.2497 0.2088 9.5592 8.3810 7.7481 7.2549 6.2497 6.2497 0.7640 10.0790 9.4376 8.6489 8.2571 7.7481 7.2540 7.0394 <th< td=""><td>.090</td><td>6.639</td><td>.216</td><td>.821</td><td>.450</td><td>Τ.</td><td>.778</td><td>.474</td><td>٦.</td><td>3.923</td></th<>	.090	6.639	.216	.821	.450	Τ.	.778	.474	٦.	3.923
8.0297 7.5187 7.0403 6.5922 6.1727 5.7799 5.4121 5.0677 4.8.4551 8.4551 7.9170 7.4132 6.9415 6.4997 6.0861 5.6988 5.3362 4.5818 8.8534 8.2900 7.7625 7.2685 6.8059 6.3728 5.6988 5.3362 4.5816 5.6988 5.3957 5.8229 5.5879 5.8229 5.5879 5.8229 5.8249 7.0741 7.0741 7.0741 7.0741 7.0741	.575	7.093	.642	.219	.823	.452	.105	.78	.476	.19
8.4551 7.9170 7.4132 6.9415 6.4997 6.0861 5.6988 5.3362 4.58534 8.2900 7.7625 7.2685 6.8059 6.3728 5.9673 5.5876 5.5876 5.2264 8.2900 7.7625 7.2685 6.8059 6.3728 5.9673 5.5876 5.5876 5.2829 5.5876 5.2829 5.5876 5.2497 5.6239 6.2493	029	7.518	.040	. 592	.172	.779	.412	•06	.745	.44
8.8534 8.2900 7.7625 7.2685 6.8059 6.3728 5.9673 5.5876 5.5876 5.5264 8.6392 8.2900 7.7625 7.5747 7.0927 6.6413 6.2187 5.5876 5.58229 5.96229 5.92264 8.6392 6.64541 6.0434 5.8229 5.96229 5.92026 8.3957 7.8614 7.3611 6.8927 6.4541 6.0434 5.8229 5.9026 9.2724 8.6824 8.1299 7.6125 7.1281 6.6745 6.2497 5.829 5.2497 5.829 5.8279 5.8249 5.8279 5.8249 5.8249 5.8239 6.24497 5.8249 7.7481 7.2550 6.7934 6.2430 6.	455	7.917	.413	.941	.499	.086	.698	.33	966.	.67
9.2264 8.6392 8.0895 7.5747 7.0927 6.6413 6.2187 5.8229 5.9264 9.2264 8.0892 7.5747 7.0927 6.6413 6.2497 5.929 5.929 9.5756 8.9662 8.3957 7.8614 7.3611 6.8927 6.4541 6.0434 5.7592 9.9026 9.2724 8.6824 8.1299 7.6125 7.3485 6.8497 6.2497 5.2497 5.7549 6.2497 5.7549 6.2497 6.2497 5.75549 7.0741 6.6239 6.2239 <th< td=""><td>.853</td><td>8.290</td><td>.762</td><td>.268</td><td>.805</td><td>.372</td><td>.967</td><td>.58</td><td>.232</td><td>4.899</td></th<>	.853	8.290	.762	.268	.805	.372	.967	.58	.232	4.899
9.57568.96628.39577.86147.36116.89276.45416.04345.9.90269.27248.68248.12997.61257.12816.67456.24975.0.20889.55928.95088.38127.84797.34856.88096.44306.0.49559.82769.20228.61668.06837.55497.07416.62396.0.764010.07909.43768.27477.74817.25506.79346.1.015410.31449.65809.04348.46797.92917.42456.95206.1.250810.53489.86449.23678.64898.09857.58317.10066.1.471210.741210.05769.41768.81838.25717.73177.23976.1.677510.934410.23869.58718.97708.40577.87087.36996.1.870811.115410.40809.74579.12558.54488.00107.99477.2.667511.861411.106610.39989.73809.11838.53807.99477.3.241012.398411.609410.876610.04219.40318.80478.61723.950913.063112.231811.453410.724610.04219.40318.80478.8047	.226	8.639	.089	.574	.092	.641	.218	.82	.452	.10
9.9026 9.2724 8.6824 8.1299 7.6125 7.1281 6.6745 6.2497 5.502 0.2088 9.5592 8.9508 8.3812 7.8479 7.3485 6.8809 6.4430 6.7934 6.2497 5.6039 6.4430 6.2497 6.2493 6.250 6.2493 6.2493 6.2493 6.2493 6.2493 6.250 6.7934 6.7934 6.7934 6.2520 6.7934 6.2520 6.2930 6.2520 6.2933 6.2233 6.2233 6.2233 7.2230 7.2230 7.2230 7.2230 7.2230	.575	8.966	۳.	.861	.361	.892	.454	.043	.658	.29
0.2088 9.5592 8.9508 8.3812 7.8479 7.3485 6.8809 6.4430 6. 0.4955 9.8276 9.2022 8.6166 8.0683 7.5549 7.0741 6.6239 6. 0.7640 10.0790 9.4376 8.8166 8.0683 7.5549 7.0741 6.6239 6. 0.7640 10.0790 9.4376 8.0684 9.0434 8.4679 7.9291 7.4245 6.9520 6. 1.2508 10.5348 9.644 9.2357 8.6489 8.0985 7.5831 7.1006 6. 1.4712 10.7412 10.0576 9.44176 8.8183 8.2571 7.7317 7.2397 6. 1.6775 10.9344 10.2386 9.7457 9.1255 8.5448 8.0010 7.4919 7. 2.6675 11.8614 11.1066 10.3998 9.7380 9.1183 8.5380 7.9947 7. 3.6538 12.7849 11.9713 11.2095 10.4962 9.8282	902	9.272	9	.129	.612	.128	.674	.249	.852	.47
0.4955 9.8276 9.2022 8.6166 8.0683 7.5549 7.0741 6.6239 6.7934 6.7040 0.7640 10.0790 9.4376 8.8370 8.2747 7.7481 7.2550 6.7934 6.7934 6.7034 6.7034 6.7034 6.7934 6.7034 6.7034 6.7034 6.7034 6.7034 7.2550 7.2550 6.7934 6.700 6.7034 6.700 7.700 6.700 7.700 6.700 7.700 6.700 6.700 7.700 6.700 7.700 6.700 7.700 6.700 7.700 6.700 7.700 6.700 7.700 6.700 7.700 6.700 7.700 7.700 7.700 7.700	0.208	9,559	5	.381	.847	.348	.880	.443	.033	5.649
1.0154 10.0790 9.4376 8.8370 8.2747 7.7481 7.2550 6.7934 6. 1.0154 10.3144 9.6580 9.0434 8.4679 7.9291 7.4245 6.9520 6. 1.2508 10.5348 9.8644 9.2367 8.6489 8.0985 7.5831 7.1006 6. 1.4712 10.7412 10.0576 9.4176 8.8183 8.2571 7.7317 7.2397 6. 1.6775 10.9344 10.2386 9.5871 8.9770 8.4057 7.8708 7.3699 6. 1.8708 11.1154 10.4080 9.7457 9.1255 8.5448 8.0010 7.4919 7. 2.6675 11.8614 11.1066 10.3998 9.7380 9.1183 8.5380 7.9947 7. 3.2410 12.3984 11.6094 10.8766 10.4962 9.8282 9.2028 8.6172 8. 3.5538 12.7849 11.9713 11.4534 10.7246 10.0421 9.4031 <td>0.495</td> <td>9.827</td> <td>7</td> <td>.616</td> <td>.068</td> <td>.554</td> <td>.074</td> <td>.623</td> <td>.202</td> <td>89</td>	0.495	9.827	7	.616	.068	.554	.074	.623	.202	89
1.0154 10.3144 9.6580 9.0434 8.4679 7.9291 7.4245 6.9520 6.9520 1.2508 10.5348 9.8644 9.2367 8.6489 8.0985 7.5831 7.1006 6.91 1.4712 10.7412 10.0576 9.4176 8.8183 8.2571 7.7317 7.2397 6.91 1.6775 10.9344 10.2386 9.5871 8.9770 8.4057 7.8708 7.3699 6.91 1.8708 11.1154 10.4080 9.7457 9.1255 8.5448 8.0010 7.4919 7.80 2.6675 11.8614 11.1066 10.3998 9.7380 9.1183 8.5380 7.9947 7.9947 7.9947 7.9946 8.3566 7.9947 7.9947 7.9947 7.9947 7.9947 7.9947 7.9947 7.9947 7.9947 7.9947 7.9947 7.9947 7.9947 7.9947 7.9947 7.9947 7.9947 7.9947 7.9947 8.9047 8.9047 8.9047 8.9047 8.9047 8.9047 8.9047 8.9047 8.9047 8.9047 8.9047 8.9	0.764	10.079	4	.837	.274	.748	.255	. 793	.361	.95
1.2508 10.5348 9.8644 9.2367 8.6489 8.0985 7.5831 7.1006 6. 1.4712 10.7412 10.0576 9.4176 8.8183 8.2571 7.7317 7.2397 6. 1.6775 10.9344 10.2386 9.5871 8.9770 8.4057 7.8708 7.3699 6. 1.8708 11.1154 10.4080 9.7457 9.1255 8.5448 8.0010 7.4919 7. 2.6675 11.8614 11.1066 10.3998 9.7380 9.1183 8.5380 7.9947 7. 3.2410 12.3984 11.6094 10.8706 10.1788 9.5311 8.9246 8.3566 7. 3.6538 12.7849 11.9713 11.2095 10.4962 9.8282 9.2028 8.6172 8 3.9509 13.0631 12.2318 11.4534 10.7246 10.0421 9.4031 8.8047 8	1.015	4 10.314	658	.043		.929	. 424	.952	. 509	0
1.4712 10.7412 10.0576 9.4176 8.8183 8.2571 7.7317 7.2397 6. 1.6775 10.9344 10.2386 9.5871 8.9770 8.4057 7.8708 7.3699 6. 1.8708 11.1154 10.4080 9.7457 9.1255 8.5448 8.0010 7.4919 7. 2.6675 11.8614 11.1066 10.3998 9.7380 9.1183 8.5380 7.9947 7. 3.2410 12.3984 11.6094 10.8706 10.1788 9.5311 8.9246 8.3566 7. 3.6538 12.7849 11.9713 11.2095 10.4962 9.8282 9.2028 8.6172 8 3.9509 13.0631 12.2318 11.4534 10.7246 10.0421 9.4031 8.8047 8	1.250	10.534	864	.236	•	.098	ິນ	.100	.648	6.225
1.6775 10.9344 10.2386 9.5871 8.9770 8.4057 7.8708 7.3699 6. 1.8708 11.1154 10.4080 9.7457 9.1255 8.5448 8.0010 7.4919 7. 2.6675 11.8614 11.1066 10.3998 9.7380 9.1183 8.5380 7.9947 7. 3.2410 12.3984 11.6094 10.8706 10.1788 9.5311 8.9246 8.3566 7. 3.6538 12.7849 11.9713 11.2095 10.4962 9.8282 9.2028 8.6172 8. 3.9509 13.0631 12.2318 11.4534 10.7246 10.0421 9.4031 8.8047 8.	1.471	2 10.741	0.057	.417		.257		.239	.779	۳.
2.6675 11.8614 11.1066 10.3998 9.7380 9.1183 8.5380 7.9947 7.9947 2.6675 11.8614 11.1066 10.3998 9.7380 9.1183 8.5380 7.9947 7.9947 3.2410 12.3984 11.6094 10.8706 10.1788 9.5311 8.9246 8.3566 7.9366 3.6538 12.7849 11.9713 11.2095 10.4962 9.8282 9.2028 8.6172 8.6172 3.9509 13.0631 12.2318 11.4534 10.7246 10.0421 9.4031 8.8047 8.8047	1.677	7 10.934	0.238	587	•	.405	æ	.369	.900	4.
2.6675 11.8614 11.1066 10.3998 9.7380 9.1183 8.5380 7.9947 7. 3.2410 12.3984 11.6094 10.8706 10.1788 9.5311 8.9246 8.3566 7. 3.6538 12.7849 11.9713 11.2095 10.4962 9.8282 9.2028 8.6172 8. 3.9509 13.0631 12.2318 11.4534 10.7246 10.0421 9.4031 8.8047 8.	1.870	8 11.115	0.408	.745	•	.544	0	.491	.015	.5
3.2410 12.3984 11.6094 10.8706 10.1788 9.5311 8.9246 8.3566 7. 3.6538 12.7849 11.9713 11.2095 10.4962 9.8282 9.2028 8.6172 8. 3.9509 13.0631 12.2318 11.4534 10.7246 10.0421 9.4031 8.8047 8.	2.667	5 11.861	1.106	0.39	9.7380		. 5	.994	•	7.00
3.6538 12.7849 11.9713 11.2095 10.4962 9.8282 9.2028 8.6172 8. 3.9509 13.0631 12.2318 11.4534 10.7246 10.0421 9.4031 8.8047 8.	2 241	12,398	1.609	0.87	o.	•	6	.356	•	7.32
3.9509 13.0631 12.2318 11.4534 10.7246 10.0421 9.4031 8.8047 8.	2 653	12.23	1.971	1,20	o	•	?	.617	•	
CEC C ECCC C CERT C THOUSE THE CONTROL OF THE CONTR	2000.5	12.063	2 231	1.45	Ö	0	7	.804	•	7.71
A 15 A 1 A 1 A 1 A 1 A 1 A 1 A 1 A 1 A 1		200.01	1000	64.1		Ċ	Ľ	939	370	.83

Notes:

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum
of Agreement on Criteria/Standards for EA/LCC for MILCON Design (Discount Rate = 10%).
<3> Covers Costs such as Routine Maintenance & Repair and Custodial.

Present Worth Factors--Annually Recurring Costs Non-Zero Differential Escalation (e = 4%) Table NE-2-10.

Number				Be	eneficial O	Occupancy D	Date			
of Payments	Oct 1993	Oct 1994	Oct 1995	Oct 1996	Oct 1997	Oct 1998	Oct 1999	Oct 2000	Oct 2001	Oct 2002
H	.945	.89			.75	.71	.675	.638	.60	.570
7	.839	.73	•	S.	1.4697	.38	.313	.242	.17	.110
m	684	53	•	.26	45	2.0280	1.9174	1.8128	1.7139	~
4	.483	.29	•	6	.7	.63	.488	.352	.22	.102
വ		•	3.7891	3.5824	.387	.20	.027	.862		.558
9	.953	.683	.427	18	.957	.741	.537	.344	. 1	.989
7	628	.321	.031	. 75	4	.252	20	.800	ທ	.397
· 00	.266	.925	.601	29	.007	.734	.476	.231	0	.782
6	870	.49		5.8065	5.4898	6	4.9072	4.6395	4.3865	4.1472
10	•	035	.651	. 28	.945	.621	.314	.024		.491
11	.980	.545	.133	6.7448	6.3769	6.0291	. 700	.389	0.	.817
12	.490	.027	.589	.175	.784	.414	.064	.733	4	.125
13		8.4838	8.0210	7.5835	9	7	0	S	5.7289	5.4165
14	.429	.914	.428	.968	.534	.123	.734	.367	9	.691
15	.860	.322	.814	.333	.878	. 449	.042	.658		.952
16	0.268	.707		.677	٦,	.756	.333	6.	ູເກ	.198
17	0.653	0.072	•	.003	.512	.048	.609	٦.	Φ.	.430
18		10.4168	9.8486	9.3114	8.8035	8.3233	7.8693	7.4401	7.0343	6.6506
19	1.362	0.742	•	.602	.078	.583	.115	9.	4	.858
20	1.687	1.050	•	.877	.339	.829	.348	7.8926	4.	.055
21	1.995	1.341	10.7229	10.1380	9.5850	9.0622	.567	7	.658	.241
22	2	.61	6	.38	17	9.2822	8.7759	8.2972	7.8446	7.4167
23	2.562	1.877	11.2292	10.6167	0.0	.49	.972	4	.020	.582
24	2.822	2.123	.461	0.83	4	.686	.158	9	•	.740
25	3.068	2.355	.681	1.04	0.4	.872	.334	α.	.343	.888
30	4.111	13.3418	.614	∥ ວ.	1.275	099.0	0.079	.529	.009	.518
35	4.899	4.086	.318	2.5	1.905	1.255	0.641	0.061	.512	.993
40	15.4946	64	13.8504	13.0949	12.3807	05	1.06	10.4632	•	9.3529
45	5.944	5.074	.252	3.4	2.740	2.04	.388	0.766	ð	.624
50	6.284	5.395	.556	3.7	3.011	2.301	1.630	0.996	0.396	.829

Notes:

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum of Agreement on Criteria/Standards for EA/LCC for MILCON Design (Discount Rate = 10%).
<3> Covers Costs such as Routine Maintenance & Repair and Custodial.

Table NE-2-11. Present Worth Factors-Annually Recurring Costs Non-Zero Differential Escalation (e = 5%)

Payments Oct 1993 Oct 1994 Oct 1995 Oct 1996 Oct 1996 Oct 1999 Oct 1992 Oct 1992 Oct 2010	Number				Be	Beneficial O	Occupancy D	Date			
0.9545 0.9112 0.8697 0.8302 0.7925 0.7564 0.7221 0.6892 1.2859 1.2879<	OI Payments	-	7	т.	1						
1.6857 1.6867 1.5869 1.6277 1.5869 1.6277 1.5869 1.6277 1.5869 1.6277 1.5869 1.6277 1.5869 1.6181 2.1676 2.0692 1.9752 1.8859 1.6181 2.0692 2.0692 1.9752 1.8859 1.9752 1.8859 1.9752 1.8859 1.9767 4.6181 2.0692 2.5746 2.4576 2.4662 2.6921 3.5931 3.5031<	1	.954	6.	8.	•		0.7564		.689	•	
2.7354 2.6111 2.4824 2.3791 2.2200 2.1678 2.0662 1.9752 1.9854 1 4.3861 4.1600 3.7489 3.1012 2.1678 2.0662 2.9577 2.6784 4.1874 2.5746 2.7904 2.7904 2.7813 3.6931 3.5252 3.0038 2.5713 3.6931 3.5252 3.0038 3.6931 3.5252 3.0038 3.6931 3.5252 3.0038 3.6941 6.2466 4.2465 4.0531 3.6931 3.5252 3.0038 6.2496 6.2490 5.6279 6.4867 4.0229 3.6946 4.4468 4.2462 4.0531 3.6931 3.6526 4.7121 4.0229 3.6946 7.0044 4.8456 6.1906 5.9092 5.1904 4.8456 6.1906 5.9092 5.1904 4.8466 6.1906 5.9092 5.1904 4.8466 6.1906 5.9092 5.1906 5.9092 5.1906 5.9092 5.1906 5.9092 5.1906 5.9092 5.1906 5.9092 5.1906	7	.865	۲.	•	•	•	1.4785	•	.347	•	•
3.5657 3.4036 3.2489 3.1012 2.9602 2.8257 2.5746 2.4576 2 4.3581 4.1600 3.9709 3.7904 3.6181 3.4537 3.2967 3.1468 3.0038 2 5.8366 5.5714 4.6602 4.4454 4.6254 4.6254 4.4151 4.4151 4.0164 4.0216 5.0929 5.0466 5.981 6.0481 6.0467 6.1906 5.0929 5.0406 5.384 7.01191 6.0756 6.1906 5.0929 5.0406 5.384 7.01191 6.0756 6.1906 5.0929 5.0406 5.384 7.01191 6.0756 6.1918 6.1906 5.0929 5.0407 5.1918 9.0094 9.0094 9.0094 9.0094 9.0094 9.0094 9.0094 9.00	ო	.735	9	•	•	•	2.1678	•	.975	•	•
4.3581 4.1600 3.9709 3.7904 3.6181 3.4537 3.2967 3.1468 3.0038 2.51146 4.8821 4.6602 4.4483 4.2462 4.0531 3.8689 3.6931 3.5252 3.5181 5.0764 4.8462 4.0531 3.8689 3.6931 3.5252 5.9418 5.0764 4.8462 4.0531 3.8689 3.6931 3.5252 5.940 5.6259 5.1342 5.144 4.0229 3.6934 4.9514 4.0529 4.7121 4.40229 3.6934 4.9514 4.9514 4.9514 4.9514 4.9514 4.9514 4.9514 4.9514 4.9514 4.9514 4.9514 4.9514 4.9514 4.9514 4.9514 4.9514 4.9514 4.9514 4.0529 5.6406 5.0929 5.6406 5.0929 5.1802 6.1804 5.1804 5.1804 5.1804 5.1804 5.1804 5.1804 5.1804 5.1804 5.1804 5.1804 5.1804 5.1804 5.1804 5.1804 5.1804 5.1804 5.1804<	4	.565	4.	•	•	•	2.8257	•	.574	•	•
5.1146 4.8821 4.6602 4.4483 4.2462 4.0534 3.6699 3.6693 3.6931 3.5552 3 5.8366 5.5713 5.9461 5.0764 4.8456 4.6274 4.4151 4.4979 4 4.4979 4 4.9564 4.9365 5.1872 4.9514 5.9092 5.4342 5.1872 4.9514 5.9092 5.4467 5.9092 5.6406 5.3842 5.7974 5.8630 8.2844 7.9196 7.2075 6.1918 5.7974 5.8606 5.3842 5.7974 5.8863 8.2844 7.9176 6.9831 7.2087 6.9861 7.9796 7.2087 6.1918 5.7974 8.7876 8.7876 8.7876 8.7	ហ	.358	Ξ.	•	•	9	3.4537	•	.146	•	•
5.8366 5.5713 5.3181 5.0764 4.8456 4.6554 4.4151 4.2144 4.0229 3.3 7.1838 6.8573 5.3461 5.6758 5.4178 5.1712 4.9365 4.7121 4.9379 4 7.1838 6.8573 6.5456 6.2480 5.6640 5.6929 5.4342 5.1872 4.9379 4 7.1818 7.4567 7.1178 6.7942 6.4854 6.1906 5.9092 5.6406 5.3842 5 8.935 8.5751 8.1864 7.3156 6.9831 6.6657 6.3627 6.0735 5.7974 5 9.5242 9.181 8.2844 7.9152 7.2087 6.8811 6.8811 6.8811 6.9276 7.7277 6.9276 <th>9</th> <th>.114</th> <th>.882</th> <th></th> <th></th> <th>7</th> <th>.053</th> <th></th> <th>.693</th> <th> K</th> <th></th>	9	.114	.882			7	.053		.693	K	
6.5259 6.2292 5.9461 5.6758 5.4178 5.1716 4.9365 4.7121 4.4979 4 7.1838 6.8873 6.8456 6.7940 6.4864 6.1909 5.4342 5.1872 4.9514 4 7.1838 6.8873 7.1178 6.7942 6.4854 6.1902 5.4960 5.9440 5.9902 5.4966 5.9902 5.4966 5.9902 5.4864 7.916 7.2087 6.6811 6.5833 6.2893 7.520 7.2087 6.8811 6.5833 6.9846 7.916 7.520 7.2087 6.8811 6.5833 6.9828 7.916 7.5520 7.2087 6.8811 6.5833 6.9828 7.916 7.5520 7.2087 6.8811 6.5833 6.9828 7.916 7.5520 7.2087 6.8811 6.5683 6.9836 8.7345 7.986 7.9976 7.2087 6.8811 6.5833 6.9828 7.9976 7.2087 6.9811 7.996 7.2087 7.2087 7.2087 7.2087 7.2087	7	.836	.571	•	•	æ	.625	•	.214	0	•
7.1838 6.8573 6.5456 6.2480 5.9640 5.6929 5.4342 5.1872 4.9514 4 7.8118 7.4567 7.1178 6.7942 6.4854 6.1906 5.9092 5.6406 5.3842 5 8.4113 8.0289 7.6640 7.3156 6.9831 6.667 6.3627 6.0735 5.7974 5 9.5297 9.0965 8.6830 8.2884 7.9156 7.2087 6.8111 6.567 10.0511 9.5942 9.1581 8.7418 8.3445 7.962 7.6031 7.2707 6.9276 10.0547 10.0647 9.1747 8.7576 8.3596 7.9796 7.5107 6.9276 6.9276 11.0238 10.0557 9.922 9.1528 9.1529 8.7360 8.2893 7.5916 7.2707 6.9276 6.9276 6.9276 6.9276 6.9276 6.9276 6.9276 6.9276 9.9282 9.1528 9.1529 7.2707 6.9276 9.9282 9.1528 9.2	80	. 525	.229	•	•	4.	.171	•	.712	4	•
8.4113 8.0289 7.6640 7.3156 6.9831 6.6657 6.3627 6.0735 5.7974 5 8.4113 8.0289 7.6640 7.3156 6.9831 6.6657 6.3627 6.0735 5.7974 5 8.9835 8.5751 8.1854 7.9116 7.5520 7.087 6.0131 5.7974 5 9.5527 9.0956 8.6830 8.2884 7.9116 7.5520 7.087 6.1918 5 10.5487 10.0651 9.5942 9.1814 8.7418 8.7456 8.3596 7.9796 7.6169 7.2707 6 11.0238 10.0556 10.04576 9.9822 9.5285 9.0954 8.5999 7.5999 7.5991 7.5007 6 11.4773 10.9556 10.04576 9.9827 9.7584 9.0544 9.0094 8.5999 8.7599 17.2007 6 11.9101 11.5878 11.0611 10.2339 10.0784 9.6203 9.1309 7.5981	6	.183	.857	•	•	5.9640	.692	•	.187	٥.	.726
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11.0238 10.5227 10.0444 9.5878 9.1520 8.7360 8.3389 7.9599 7.59106 7.9	15	0.548	0.069	.61	•	•	8.3596	7.	.616	•	•
11.4773 10.9556 10.4576 9.9822 9.5285 9.0954 8.6820 8.2873 7.9106 7 11.9101 11.3687 10.8520 10.3587 9.8879 9.4384 9.0094 8.5999 8.2090 7 12.3233 11.7631 11.2285 10.7181 10.2309 9.7658 9.6203 9.1830 8.7956 8 12.7177 12.1396 11.5878 11.0611 10.5583 10.0784 9.6203 9.1830 8.7656 8 13.0942 12.1396 11.9308 11.3692 10.8709 10.3767 9.9051 9.4548 9.0251 8 13.4535 12.8620 12.2842 11.4540 10.9333 10.4364 9.9620 9.5092 9 14.1240 13.4820 12.5862 12.2842 11.758 11.4405 10.9205 10.4241 9.9503 9.5092 14.4365 14.4365 13.7803 13.161 12.5860 11.9853 11.4405 10.9205 10.9251 10.879 <t< td=""><th>16</th><td>1.023</td><td>. 522</td><td>0</td><td>9.5878</td><td>. •</td><td>8.7360</td><td></td><td>.959</td><td>•</td><td></td></t<>	16	1.023	. 522	0	9.5878	. •	8.7360		.959	•	
11.9101 11.3687 10.8520 10.3587 9.8879 9.4384 9.0094 8.5999 8.2090 7 12.3233 11.7631 11.2285 10.7181 10.2309 9.7658 9.3219 8.8982 8.4938 8 12.7177 12.1396 11.5878 11.0611 10.5583 10.0784 9.6203 9.1830 8.7656 8 13.0942 12.1396 11.9308 11.3885 10.8709 10.3767 9.9051 9.4548 9.0251 8 13.4535 12.8420 11.9994 11.1692 10.6615 10.1769 9.7143 9.2728 9 14.1240 13.4820 12.2842 11.7258 11.1928 10.6841 10.1984 9.7349 9 14.4365 13.7803 13.1539 12.5560 11.9853 11.4405 10.9205 10.4241 9.9503 9 15.7986 15.0805 14.3950 13.7407 13.1161 12.5199 11.9076 10.4241 9.9503 16.8781<	17	1.477	.955	ö	9.9822	•	9.0954	•	.287	•	•
12.3233 11.7631 11.2285 10.7181 10.2309 9.7658 9.3219 8.8982 8.4938 8 12.7177 12.1396 11.5878 11.0611 10.5583 10.0784 9.6203 9.1830 8.7656 8 13.0942 12.1396 11.9308 11.3885 10.8709 10.3767 9.9051 9.4548 9.0251 8 13.4535 12.2683 11.7011 11.1692 10.3767 9.9051 9.7448 9.7278 8 14.1240 13.4820 12.5608 11.7558 11.1405 10.4241 9.9620 9.5092 9.7349 9 14.4365 13.7803 13.1539 12.5560 11.9853 11.4405 10.4241 9.9503 <t< td=""><th>18</th><td>1.910</td><td>.368</td><td>ö</td><td>0</td><td>•</td><td>9.4384</td><td>•</td><td>. 599</td><td>•</td><td>•</td></t<>	18	1.910	.368	ö	0	•	9.4384	•	. 599	•	•
13.0942 12.4990 11.9308 11.3885 10.0784 9.6203 9.1830 8.7656 8 13.0942 12.4990 11.9308 11.3885 10.8709 10.3767 9.9051 9.4548 9.0251 8 13.4535 12.8420 12.2583 11.7011 11.1692 10.6615 10.1769 9.7143 9.2728 8 13.7965 13.1694 12.5708 11.9994 11.4540 10.9333 10.4364 9.9620 9.5092 9 14.1240 13.7860 12.2842 11.7258 11.1928 10.6841 10.1984 9.7349 9 14.4365 13.7803 13.1539 12.5560 11.9853 11.4405 10.9205 10.4241 9.9503 9 15.7986 15.0805 14.43950 13.7407 13.1161 12.5199 11.9509 11.4076 10.8891 10 16.8781 16.1109 15.3786 14.6795 14.7225 14.0533 13.4145 12.18047 12.2877 11 18.4114 17.5745 16.0131 15.2313 14.5905 13.9273 <th>19</th> <td>2.323</td> <td>.763</td> <td>ä</td> <td>0</td> <td>ö</td> <td>9.7658</td> <td>•</td> <td>.898</td> <td>•</td> <td>•</td>	19	2.323	.763	ä	0	ö	9.7658	•	.898	•	•
13.0942 12.4990 11.9308 11.3885 10.8709 10.3767 9.9051 9.4548 9.0251 8 2 13.4535 12.8420 12.2583 11.7011 11.1692 10.6615 10.1769 9.7143 9.5020 9 4 13.7965 13.1694 12.5708 11.9994 11.4540 10.9333 10.4364 9.9620 9.5092 9 4 14.1240 13.4820 12.2842 11.9853 11.1928 10.6841 10.1984 9.7349 9 5 14.4365 13.7803 13.1539 12.5560 11.9853 11.4405 10.9205 10.4241 9.9503 9 6 15.7866 15.3786 14.6795 14.0123 13.3754 12.7674 12.1871 11.6331 11 5 16.8781 16.1580 15.4235 14.7225 14.0533 13.4145 12.8047 12.2899 12.6995 12.6899 12.6899 12.6899 12.6899 12.6899 12.6899 12.6899	20	2.717	.139	1.587	_	ċ	0	•	. 183	•	•
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4 14.1240 13.4820 12.8692 12.2842 11.7258 11.1928 10.6841 10.1984 9.7349 9 5 14.4365 13.7803 13.1539 12.5560 11.9853 11.4405 10.9205 10.4241 9.9503 9 0 15.7986 15.0805 14.3950 13.7407 13.1161 12.5199 11.9509 11.4076 10.8891 10 1 16.8781 16.1109 15.3786 14.6795 14.0123 13.3754 12.7674 12.1871 11.6331 11 0 17.7335 16.9274 16.1580 15.4235 14.7225 14.0533 13.4145 12.8047 12.2227 11 18.4114 17.5745 16.0131 15.2853 14.5905 13.9273 13.2942 12.6899 12 18.9486 18.0873 17.2652 16.4804 15.7313 15.0162 14.3337 13.6821 13.0602 12	23	3.796	3.169	6	÷.	H	6.0	0.4	ď	•	•
5 14.4365 13.7803 13.1539 12.5560 11.9853 11.4405 10.9205 10.4241 9.9503 9 0 15.7986 15.0805 14.3950 13.7407 13.1161 12.5199 11.9509 11.4076 10.8891 10 5 16.8781 16.1109 15.3786 14.6795 14.0123 13.3754 12.7674 12.1871 11.6331 11 0 17.7335 16.9274 16.1580 15.4235 14.7225 14.0533 13.4145 12.8047 12.2227 11 5 18.4114 17.5745 16.0131 15.2853 14.5905 13.9273 13.2942 12.6899 12 18.9486 18.0873 17.2652 16.4804 15.7313 15.0162 14.3337 13.6821 13.0602 12	24	4.124	3.482	2	ä	H	1.1	9.0	ö	•	. 29
0 15.7986 15.0805 14.3950 13.7407 13.1161 12.5199 11.9509 11.4076 10.8891 10 5 16.8781 16.1109 15.3786 14.6795 14.0123 13.3754 12.7674 12.1871 11.6331 11 0 17.7335 16.9274 16.1580 15.4235 14.7225 14.0533 13.4145 12.8047 12.227 11 5 18.4114 17.5745 16.0131 15.2853 14.5905 13.9273 13.2942 12.6899 12 0 18.9486 18.0873 17.2652 16.4804 15.7313 15.0162 14.3337 13.6821 13.0602 12	25	4.436	3.780	m.	7	÷.	1.4	0.9	o.	•	. 49
5 16.8781 16.1109 15.3786 14.6795 14.0123 13.3754 12.7674 12.1871 11.6331 11 0 17.7335 16.9274 16.1580 15.4235 14.7225 14.0533 13.4145 12.8047 12.2277 11 5 18.4114 17.5745 16.7757 16.0131 15.2853 14.5905 13.9273 13.2942 12.6899 12 0 18.9486 18.0873 17.2652 16.4804 15.7313 15.0162 14.3337 13.6821 13.0602 12	30	5.798	5.080	4	m	3.1	.5	1.950	 -	·	.394
0 17.7335 16.9274 16.1580 15.4235 14.7225 14.0533 13.4145 12.8047 12.2227 11 5 18.4114 17.5745 16.7757 16.0131 15.2853 14.5905 13.9273 13.2942 12.6899 12 0 18.9486 18.0873 17.2652 16.4804 15.7313 15.0162 14.3337 13.6821 13.0602 12	35	6.878	6.110	'n	4	4.0	3.3	2.7	ö	•	•
5 18.4114 17.5745 16.7757 16.0131 15.2853 14.5905 13.9273 13.2942 12.6899 12 0 18.9486 18.0873 17.2652 16.4804 15.7313 15.0162 14.3337 13.6821 13.0602 12	40	7.733	6.927	ė	'n.	4.7	4.0	3.4	ö	•	11.6671
$0 \hspace{0.1in} \mid \hspace{0.1in} 18.9486 \hspace{0.1in} 18.0873 \hspace{0.1in} 17.2652 \hspace{0.1in} 16.4804 \hspace{0.1in} 15.7313 \hspace{0.1in} 15.0162 \hspace{0.1in} 14.3337 \hspace{0.1in} 13.6821 \hspace{0.1in} 13.0602 \hspace{0.1in} 12$	45	8.411	7.574	ė	ė	5.2	4.5	9. 6	'n	•	12.1131
	20	8.948	8.087		ė	5.7	5.0	4.3	m.	•	12.4666

Notes:

<1> Data Based on Assumed DOS of Apr 1993.
Authorized Period of Use of Table is Oct 1992 through Sep 1993.
<2> Tabulated Data Based on Criteria Contained in 18 Mar 91 Tri-Service Memorandum
of Agreement on Criteria/Standards for EA/LCC for MILCON Design (Discount Rate = 10%).
<3> Covers Costs such as Routine Maintenance & Repair and Custodial.

MEMORANDUM OF AGREEMENT

ON

CRITERIA/STANDARDS FOR ECONOMIC ANALYSES/LIFE CYCLE COSTING FOR MILCON DESIGN

- 1. Purpose. The purpose of this Memorandum of Agreement (MOA) is to establish criteria and standards for performing economic analyses and life cycle cost studies used in support of design decisions for projects in the Military Construction (MILCON) Program, i.e., to support the selection from various alternatives of components/systems being considered as elements in facilities design. These criteria and standards apply to all design decisions regardless of when they are made in the planning, programming, design, and procurement process. This agreement does not apply to economic analyses and life cycle studies used to make project-justification decisions during the planning and programming process.
- 2. General. Economic analyses shall be conducted as part of the design process to ensure that the selection/rejection of design alternatives is not based solely on construction costs, but also on least life cycle costs (LCC), that is, lowest total cost of ownership. The depth and degree of formality of these analyses shall be determined on a case-by-case basis to ensure that the cost of performing an analysis is clearly outweighed by the potential benefits derived. Results of generic studies or results of previous analyses of alternatives similar to those currently under consideration may be used in lieu of performing a new study provided the previous study was based on similar design conditions, criteria, and methods. Previous studies should be updated only as required to reflect changes of conditions significant enough to impact the design decision. All economic analyses and other justification for the selection of a design alternative, whether a previous study or a new one, shall be clearly documented in the appropriate section of the project design analysis.
- 3. Methods. All analyses shall consider the total LCC for design alternatives, where the LCC includes all costs and benefits associated with an alternative over its expected life, including but not limited to construction/procurement, energy, maintenance, operation, repair, replacement, alteration, disposal costs, and retention values. The present value discounting approach shall be used to adjust for the differences in timing of costs and benefits unless otherwise specified by other directives or by public law. The basic discount factor for finding the present value of a future amount is calculated as follows:

Discount Factor =
$$\frac{1}{(1+d)^n}$$

where: d = appropriate discount rate, and n = the time period over which the discounting is done.

Discounting should be applied to all costs and benefits over the appropriate analysis period. Specific criteria are as follows:

- a. Discount Rates. The discount rates are expressed in "real" terms, i.e., over-and-above the rate of inflation for the economy as a whole.
- (1) Non-energy related studies: An annual "real" discount rate of 10% should be used in evaluating all non-energy related economic studies.

- (2) Energy related studies: All energy related economic studies (studies in which energy costs are relevant, regardless of their magnitude relative to other costs) shall use the current discount rate published by the National Institute of Standards and Technology (NIST) in their annual supplement to NIST Handbook 135, and disseminated by the appropriate Service Headquarters Office.
- b. Analysis Period: The analysis period shall be the date of the study (DOS) through the economic life of the facility as a whole. The economic life shall not be taken beyond 25 years from the scheduled beneficial occupancy date (BOD) for the project unless specifically approved by the appropriate Service Headquarters Office. Such approval cannot be granted for energy related studies as it is precluded by statute.
- c. Cash Flow: In general, cash flow used in the analysis will be based on the estimated calendar dates on which the events and costs/benefits are projected/scheduled to occur. Construction/procurement costs may be assumed to be incurred as a single lump sum, preferably at the time corresponding to the midpoint of the construction/procurement process. Other cash flows that occur periodically throughout the year (e.g., cost of fuel, electricity, water, maintenance, etc.) may be assumed to be incurred as a single lump sum, preferably at midyear. In circumstances where the above assumptions add unnecessarily to the complexity of the calculations, all cash flows may be assumed to occur at the end of the year in which they are actually scheduled/projected to occur.
- d. Benefits and Costs: All benefits and costs will be expressed in terms of constant dollars that reflect the purchasing power of the dollar on the DOS (i.e., constant DOS dollars). The rate of inflation of the economy as a whole will be excluded from all LCC calculations. (The rate of inflation is irrelevant to the LCC analysis results since all benefits and costs are expressed in terms of constant DOS dollars and discounted using a "real" discount rate which reflects the time value of money over-and-above the general rate of inflation.)
- e. Future Benefits and Costs: In projecting future benefits and costs, an allowance for future price-level changes will be made only for particular benefits and costs expected to change at rates higher or lower than the general rate of inflation. In such cases, the rates of change used in the analysis will be the "differential" rates, i.e., the anticipated differences between the actual projected rates of change and the general inflation rate.
- (1) Non-energy studies: For non-energy studies, the differential rate of future price-level change shall generally be assumed to be zero, except in those cases where there is reliable information/data to the contrary.
- (2) Energy studies: Fuel/energy costs shall have differential escalation rates as published by NIST in Handbook 135 and disseminated as indicated in paragraph 3.a(2) above. All non-energy costs shall have a zero differential escalation rate.
- 4. Computer Aided Calculations. All computer aided calculations for MILCON design economic studies will be accomplished using the Life Cycle Cost In Design (LCCID), a computer program for economic analysis developed by the U.S. Army Corps of Engineers Construction Engineering Research Laboratory (CERL) or a version thereof which has been certified by CERL as equivalent.

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